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No. I.

Science is the knowledge of general truths, and the facts which they embrace. The knowledge of isolated facts is not science, properly so called. It is only when two or more facts are compared with each other, and some fact common to both or all of them, or in some way related to them, is elicited, that science begins to have an existence and a name. It is accordingly created by comparison. In the character of its progress it is grouping and systematizing. It brings multiplicity under the shadow of unity, or throws the mantle of generalization over particulars; ascends from unities to higher unities, or from generalizations to higher generalizations, and is ever striving after the highest attainable unity.

A science is a body of general truths relating to one existence or principle, or to a class of existences or principles. Thus, we have the science of Mind, or Mental Philosophy, the science of Life or Physiology, the science of Light or Optics; sciences which treat of one principle. We have also the science of the Stars or Astronomy, which treats of a class of existences. A Physical science (using the word physical in its most comprehensive sense) is a knowledge of the laws of the phenomena of a certain province of Nature. Thus, astron- [illegible] the knowledge of the laws of the phenomena of the [illegible]y bodies. A Law of Nature is nothing more than a [illegible] more or less general which obtains in Nature: thus, it

is a law of Nature, or a general truth in Nature, that the planets revolve around the sun in elliptical orbits; and a still higher law, that all bodies of matter gravitate towards each other. There are two classes of natural laws, called Formal and Physical Laws, or geometrical and mechanical; according as we contemplate the phenomena in their relations to space and time, or in their relations to force, their physical cause. For example, it is a formal law that the planets describe ellipses around the sun, and a physical law that they gravitate towards the sun with a force inversely proportional to the square of their distance. The first relates merely to the geometrical form of the planetary orbits; the second involves the idea of the physical cause of the motions of the planets. A physical law, be it observed, is no force in itself, as is sometimes erroneously supposed, but merely the established and invariable rule according to which some force acts, of whose essential nature we are entirely ignorant.

The entire group of the Physical sciences is denominated Natural Philosophy, or Physics. The terms Natural Philosophy and Physics are, however, now generally used in a more limited sense, viz.: as comprising only those sciences which treat of phenomena in the Inorganic Kingdom of Nature, and which occur upon the surface of the earth, and of the general properties of bodies; and in the pursuit of which experiment is connected with observation—thus excluding astronomy which ascends to the heavens, physiology which seeks to grasp the subtle principle of life in its association with matter, and chemistry which with microscopic eye inspects the changes that occur in the arrangement of the internal molecules of bodies, in obedience to special properties or forces.

The different physical sciences are all more or less intimately connected; and the progress of science has in some instances multiplied the points of connection of individual sciences to such an extent, that the one has become completely incorporated with the other, and the distinction between them exists only in form. This has happened with the sciences of electricity and galvanism, and of electricity and magnetism. Thus unities have melted into higher unities before the fusing power of mind; but still we cannot, as yet, discern even the dim foreshadowing of the time when the goal of a perfect and complete science of Nature is destined to be reached;—that is, a science which will contemplate all Nature as a whole, and which will clasp all the laws of the material universe wi[illegible] its ample embrace. We have advanced far enough, howe[illegible]

to perceive that this science will acknowledge but two fundamental principles as existing in the material universe, viz., matter and force—that which moves and of which our senses are cognizant, and that which causes motion. Herein consists, in respect to the conception of things, the highest attainable unity; unless, at least, in imitation of Bishop Berkeley, we discard the idea of the existence of matter, and resolve the whole material universe into the one single element, or principle, of force. An all-comprehensive unity has also been detected in the mechanism of the universe, which may be called the antagonism of forces. The forces of Nature seem to be referable to the two classes of attraction and repulsion; and it is by the incessant mutual destruction of these forces, ever renewing themselves, that all rest is produced, and by the struggle going on between them that the motions of Nature are occasioned. The order and harmony of the universe, though it may sound rather paradoxical, is, then, but the strife of opposing forces. The peace of Nature is the war of first principles.

It is much to have discerned and brought out into bold relief such unities or laws, but it is only one step in advance upon the path that leads up to a perfect science of Nature. It remains yet to discover the quantitative laws and relative intensities of many of the particular forces of Nature, and by slow degrees diminish their multiplicity, and labor after the development of the highest generalization of which they admit. It may be, and doubtless is true, that this ascending scale of generalization terminates only in the bosom of Infinite Power; and thus, that though ever striving onward, man will never succeed in planting his feet upon the outer circle of the universe.

The most conspicuous feature in the general aspect of Nature is the universal prevalence of incessant change. From time immemorial poets have sung of it, and sentimentalists dreamed over it. Were this change subject to no rule, there could be no science of Nature. But if we look farther, we discern everywhere the impress of order, "heaven's first law:" we perceive that law presides over the mutations of things. This fact is the foundation, as stable as the universe itself, upon which the fabric of natural science has been reared. The subjection of change to law is most conspicuous in the heavens. The very periodicities that prevail in the heavens are our days and our years, the measures that mete out the duration of our fleeting existence. Accordingly, astronomy is the oldest of the

sciences. In the depth of the fabulous ages, centuries before either of the other physical sciences awoke into being, gifted minds, wrapt in the contemplation of the heavens, became so pervaded with a sense of the order and harmony of movement prevailing there, that they even fancied at times that they heard the "music of revolving spheres." But the dominion of law, though less manifest, is no less certain upon the earth than in the profundities of space. Changes go round here, as there, in endlessly repeated cycles. Here, as in the blue fields of space above us, are to be seen links of that golden chain which binds the universe to the throne of God. The free ocean is yet a slave to law. Life and death chase each other in endless circles. Even the mad winds, in the height of their furious glee, hear the voice of God speaking behind the veil of law, and obey. The science of terrestrial things is also of later origin than that of the heavenly, for the additional reasons, that the discovery of law upon the earth is, in general, effected only with the aid of experiment and observation combined, instead of observation alone, and that the laws of terrestrial phenomena are more or less intertwined with each other, and thus the phenomena present everywhere the aspect of complexity, instead of simplicity. From our present standing point we can not only discern the harmonious working of law on the broad earth as well as in the illimitable fields of space, but we can see the same hand grasping the earth and the heavens, and the same spirit of omnipresent power acting throughout each. We now know that the same law which moulds the dew-drop that glistens upon the trembling leaf in the morning sun, rounded the earth and the "golden-globed" planets—that the same law which guides the winged arrow to its mark, traces out the celestial pathway along which each revolving world with thunder-step incessant moves—that the same law throws around the modest flower of the valley its many-tinted robe of light, and spreads above land and sea the blue canopy of heaven; sparkles in the diamond disinterred from the dark tomb in which it has lain for countless centuries, and twinkles in the mild stars that have shone on with unchanging lustre since that morn when first they "sang together."

From the general view which I have now given of the nature and objects of natural science, of the nature of its progress, and of the distant goal to which it is tending in its onward movement, I proceed to consider the progress which has been made in the means of scientific research since the

beginning of the nineteenth century: a sketch of which, besides being interesting and instructive in itself, will tend to prepare the way for a better appreciation of the actual progress which science itself has made.

Scientific research consists of observation, experiment, and comparison; the two former of which are prosecuted in most cases with the aid of instruments. The sciences in which instrumental observation is conspicuously employed are astronomy, terrestrial magnetism, and meteorology. To begin with astronomy, the great instrument with which the facts of this science have been accumulated is the telescope. This wondrous instrument has augmented the range of human vision more than two hundred fold, and revealed the existence of worlds almost innumerable, so inconceivably remote that light, which is outstripped in speed by thought alone, delivers its message from them, not until wearied with a flight that has lasted for centuries; and by adaptation to contrivances for the measurement of angles, it has furnished nearly all the data with respect to the places and apparent motions of the heavenly bodies, upon which the wonderfully accurate astronomical tables of the present day are founded. The telescope was invented about the year 1590; a little more than 250 years since. The honor of its invention has been ascribed to different individuals: viz. John Bablista Porta, Jansen of Middleburg, (the inventor of the single microscope), and Galileo. Whoever may have invented it, Galileo was the first to direct it to the heavens. His first discoveries with the telescope were made in the year 1610. The magnifying power of his first telescope was about 20. It was no more than a good-sized spy-glass of the present day, and if now in existence would be fitted to fill no higher place than that of the humble attaché, called a finder, at the side of the telescope of this age. So great in fact has been the improvement of telescopes, that some astronomers of the present age have peered into the depths of space with a magnifying power of over 6000.

There are two general classes of telescopes, called respectively refracting and reflecting telescopes. In the first an image of the object is formed inside of the tube by a lens situated at the end of the tube nearest the object, and called the object-glass. This image is then viewed and magnified with a small microscope, called the eye-glass, situated at the end of the telescope farthest from the object. The image is formed at the common focus of the object-glass and eye-glass. The refracting telescope is, in fact, nothing more than a large spy-glass.

A reflecting telescope differs from this in having a large concave mirror or speculum to form the image instead of a lens. The magnifying power depends upon and is measured by the disproportion between the focal lengths of the object-glass and eye-glass, or of the speculum and eye-glass. The power of a telescope is therefore increased by augmenting the focal length of the object-glass or speculum, and therefore the length of the whole instrument, and by diminishing the focal length of the eye-glass. The focal length is increased by diminishing the curvature of the lens, and diminished by increasing the curvature. There is a fixed relation between the size of the lens, or the aperture of the telescope, as it is called, and the focal length or curvature. The reason of this is found in the fact that spherical lenses do not converge the light proceeding from any point of a lumious object to a mathematical point; and thus the image of the object, instead of being made up of mathematical points corresponding to those of the object, and thus being a true representation of the object on a smaller scale, is made up of circles, which, by their lapping upon each other, give an inaccurate and indistinct outline to the image. The same is true of specula in reflecting telescopes. The phenomenon is called spherical aberration, because it is a wandering of the rays from the true focus, by reason of the spherical form of the surface of the lens or speculum: for theoretically a lens or speculum may have such a form as to be free from this source of indistinctness. For every refracting telescope of a given length there is therefore a *limit to the size of the lens*, or object-glass, that can be used, affixed by the spherical aberration; and the same is true with respect to the speculum of a reflecting telescope. This is an unfortunate fact: for although the theoretical magnifying power does not depend upon the size of the object-glass, the actual available magnifying power in each case does. For the size of the object-glass, or the aperture of the telescope, determines the quantity of light that enters into the formation of the image; and upon the brightness of the image depends the magnifying power that can be brought to bear upon it by the eye-glass. An increase in the aperture of a telescope is also attended with an augmentation in the quantity of light conveyed to the eye from the stars or nebulous spots in the heavens, and thus with an increase in the power of the telescope to penetrate into space and reveal the existence of remote objects, called its space-penetrating power. In fact, looking through a telescope at the heavens is almost the same as viewing them with eyes, the size

of the object-glass of the telescope ; for this glass conveys to the eye all the light that falls upon it, with the exception of the small part that is scatterred and absorbed on its passage through it. Both the magnifying and space-penetrating power of a telescope are increased by increasing its aperture. The magnifying power is also, as we have seen, augmented by an increase of focal length. There are then two conceivable ways of improving telescopes: viz. by enlarging their aperture, or augmenting their focal length. To accomplish the first, means must be devised of grinding lenses or specula to the form which is theoretically devoid of aberration; which it is not easy to do. The latter is accomplished without difficulty ; for it only requires that the surface of the lens should be ground to a less curvature, or made flatter. Accordingly this path of improvement was first entered ; and it was pursued by different practical astronomers in succession, until at last Huyghens constructed a telescope of no less than 210 feet in focal length. The tube was necessarily dispensed with, and the object-glass was mounted on the end of a long pole ; the image being formed in the open air in the focus of the eye-glass, just in front of the eye. The obvious inconveniences attending the use of such large instruments made it a great desideratum to secure the means of enlarging the aperture, while the focal length was kept within moderate limits. In this route, which was avoided at first, lay now the only hope of farther advance. Newton was the first to enter it; but, in attempting to construct lenses free from spherical aberration, he fell upon another difficulty, which he supposed insurmountable ; and pronouncing the farther improvement of refracting telescopes impossible, he turned his attention to reflecting telescopes, then recently invented by James Gregory : of which he constructed a large number of various sizes with his own hands. But, as remarked by Whewell, "reflecting telescopes were not used with any peculiar effect till the elder Herschel made them his especial study, in the latter part of the eighteenth century. His skill and perseverance in grinding specula, and in contriving the best apparatus for their use, were rewarded by a number of curious and striking discoveries. In the year 1789, he surpassed all his former attempts, by bringing into action a telescope of forty feet in length, with a speculum of four feet in diameter." The difficulty of spherical aberration was not, however, yet overcome. The honor of surmounting this obstacle in the way of the perfection of reflecting telescopes was reserved for the present century, and for the Earl of Rosse, an Irish nobleman—

a glorious reward for the indomitable perseverance with which he struggled for years against the practical difficulty of the undertaking, and a joyous fruition of hopes often frustrated, but never overcome. This ardent votary of Astronomical science has recently succeeded in giving the true parabolic form to a speculum of the diameter of six feet, and focal length of fifty-three feet. This "leviathan telescope" was completed and directed to the heavens in March, 1845; and the announcement of its performance and of the discoveries already made with it, have everywhere been received with astonishment. The advantage gained by giving the parabolic form to the speculum is very clearly shown by the fact that Lord Rosse, before constructing his large telescope, finished one of three feet in diameter and 26 feet focus, which, though much smaller than Herschel's, is superior to it in defining power. He finds, we are told, no greater difficulty in giving the parabolic form to large than to small specula, and does not doubt the possibility of constructing hereafter reflecting telescopes that shall much surpass in their dimensions and power the gigantic one which he has recently completed.

Let us revert now to the history of refracting telescopes, which I brought down to the time of Newton. I have already adverted to a difficulty encountered by Newton in his attempt to obtain lenses devoid of spherical aberration and of larger aperture. It was that his improved lens gave images with indistinct *colored outlines*. The cause of this indistinctness was the separation by the lens of the rays of different colors that entered into the constitution of white light, so that they were concentrated at different points. This is called *chromatic aberration*. It is very much greater than the spherical aberration; increases like it with the aperture and curvature; and was really, from the first, the great obstacle in the way of enlarging the apertures of refracting telescopes; though not perceived to be a distinct phenomenon from the spherical aberration until Newton had analyzed white light, and shown it to consist of seven colors of different degrees of refrangibility.

The only conceivable way of removing the chromatic aberration is to pass the light through another lens, which, by an opposite refraction, shall bring the separated rays together. Newton supposed that all transparent substances had the same power of dispersing or separating the rays of different colors, and therefore conceived that these rays, when dispersed by the one lens, could only be brought together by refracting them to the same amount, but in the opposite direction, by the other

lens; in which case the combination of the two lenses would not concentrate the light and form images. But, as narrated by Whewell, in his admirable History of the Inductive Sciences, "Euler and Klingenstierna doubted the exactness of Newton's proposition; and, in 1755, Dollond," a celebrated English optician, "disproved it by experiment. This new light pointed out a method of making object-glasses which should give no color—which should be *achromatic*. For this purpose Dollond fabricated various kinds of glass," (flint glass or such as is used for decanters, and crown or window glass,) and he succeeded in forming achromatic lenses, by combining a concave lens of flint glass with one or two convex lenses of crown glass. In connection with his son, "he constructed telescopes three feet long (with a triple achromatic object-glass, that is, composed of three lenses), which produced an effect as great as those of forty-five feet on the ancient principles. At first it was conceived that these discoveries opened the way to a vast extension of the astronomer's power of vision; but it was found that the most material improvement was the compendious size of the new instruments; for, in increasing the dimensions, the optician was stopped by the *impossibility of obtaining lenses of flint glass of very large dimensions*. And this branch of the art remained long stationary; but after a time its epoch of advance again arrived. In the present century Frauenhofer, in Germany, succeeded in forming lenses of flint glass of a magnitude till then unheard of; and this art descended to his successors, Utzschneider in that country, and Guinand in Paris. Achromatic object-glasses of a foot in diameter, and twenty feet focal length, are now no longer impossible, although in such attempts the artist cannot reckon on certain success. Such telescopes might be expected to add something to our knowledge of the heavens, if they had not been anticipated by reflectors of an equal or greater scale." Lieut. Gilliss, who was, a few years since, sent to Europe by our Government, to purchase instruments for the National Observatory at Washington, in his report addressed to the Secretary of the Navy, thus graphically portrays the career of the celebrated Frauenhofer: "The year 1824 may be regarded as an important epoch in the history of astronomical instruments, Frauenhofer having mastered the optical difficulties, and exhibited to the world his unrivalled Dorpat telescope. Born in poverty, and early left a friendless orphan; imbued with an unquenchable thirst for knowledge, but apprenticed to a glass-grinder, who, regarding each mo-

ment not employed in labor as stolen from himself, sought to crush his desire for study by prohibiting books and even a light in his windowless chamber. It was not until the public excitement, caused by an almost miraculous escape from the fallen ruins of his dark domicil, that his simple story reached the ears and touched the feelings of his sovereign, and a career was opened to him better suited to his brilliant capacities. With mind to perceive, and reason, mechanical knowledge to execute as well as order, and means to encounter disappointments, he perfected the discoveries made by Guinand in the manufacture of large discs of homogeneous flint glass, and the great Dorpat refractor was the first monument of his scientific skill. Striding over minor obstacles, he boldly aimed at achievements in optics, which the most earnest longings of astronomers had scarcely permitted them to hope for; and this instrument of nine inches aperture was scarcely completed before an offer was made to construct one of *eighteen inches*. In the prime of life, and 'in the very heart of his gigantic conceptions, with inventions incomplete, ideas undeveloped, and speculations immatured,' this pillar was torn from the temple of science, and there was not a practical astronomer within the widest boundaries of Europe, who did not feel the tide of grief for the loss of Frauenhofer flowing within his own circle. He slumbers by the side of Reichenbach; and on the tablet erected to his memory, his mourning countrymen have inscribed a volume in the words, '*Approximavit sidera.*'" He continues, "The reputation acquired by Frauenhofer for the Optical Institute of Munich has been preserved inviolate by his successors, though they seem not to have made any great improvements in either the optical or mechanical construction of his instruments; but, on the other hand, appearing to consider the standard left by him as near perfection as is desirable, they evince an indisposition to depart from it. Meanwhile other opticians have grown up on the continent; and Cauchoix and Lerebours have turned out lenses of twelve inches diameter that have given their makers high character. Indeed, the six and six-tenth inches telescope, made by Cauchoix for the reverend fathers at Rome, will probably compare with Frauenhofer's best; and a trial of a fourteen inch, recently completed by Lerebours, the Parisian astronomers seem to think, promises greatly to extend our knowledge of the moon's physical condition. Twenty years have elapsed since Frauenhofer's offer, and 14 French inches or 15 English inches (nearly) is the maximum diameter of any lens yet perfected." Besides

the French lens of this size, just mentioned, the great telescope of the observatory recently established at Pulkovah, near St. Petersburg, has an object-glass of the same magnitude, manufactured by the successors of Frauenhofer. The telescope has a focal length of twenty-two feet. It is in the hands of the celebrated Struve, who, during a period of thirteen years, from 1825 to 1838, used the great Dorpat refractor with such signal ability and success; and he has already begun to reap with it a new harvest of discoveries. A refracting telescope, of slightly greater dimensions, from the same manufactory, but admitted to be decidedly superior to it in its performance, and to be the best refracting telescope in the world, was erected in the year 1847, in the Cambridge Observatory, near Boston, and, in the hands of the Messrs. Bond, has already enriched astronomy with many valuable observations and discoveries.

The present successors of Frauenhofer are Merz and Mähler. Lieut. Gilliss states that "their furnaces are in the Tyrol, and surrounded with high walls; and so jealously is the art guarded, that Mr. Merz does not permit even his workmen to be present at the casting of the lenses, but turns them all outside the walls. His son is probably the only person living capable of manufacturing the glass, Mähler being the mechanician. Utzschneider, the partner of Frauenhofer, survived him, and sold the reversion of the Optical Institute to Merz and Mähler, its present proprietors; but just before his death, and without cancelling the sale, he was induced to make a will bequeathing all to the government, which took possession at his decease. Merz and Mähler brought suit and recovered; compromising to deposit all the papers relating to the subject among the public archives, so that the secret cannot be lost." Merz repeated to Lieut. Gilliss the offer formerly made by Frauenhofer, to construct a lens of 18 inches in diameter, if he were allowed five years for the completion of the telescope. This offer he did not feel at liberty to accept; but, instead, chose from among the lenses of various diameters on hand, one of about 9 1-2 inches, for which he gave $3,600. The cost of the whole telescope was $6,000. It was equatorially mounted upon the top of a high pillar of stone and brick, under the dome of the National Observatory building, in the summer of 1844. At the date of its erection this was the largest and best telescope in the United States, but at the present date there are two others superior to it, viz.: the telescope since mounted in the Cincinnati Observatory, on Mount Adams, near Cincinnati, which has a clear aperture of 12 inches, and a focal length of 17 feet, and which, in the hands

of Professor Mitchel, has begun to do good service; and the Cambridge refractor, already alluded to.

In view of what has now been said respecting the telescope, it will be seen that the great obstacles which for a century or more have stood in the way of its perfection, viz., the *practical difficulties of giving a parabolic form to a speculum*, and of *constructing large lenses of flint glass*, have been within a few years in a great degree surmounted. Thus have been obtained large specula free from spherical aberration, and defining objects with almost perfect distinctness and sharpness of outline, and lenses free from both the spherical and chromatic aberration, of nearly equal distinctness and power. But the march of improvement is still onward, here, as every where; and it is probable that not many years will have passed away, before telescopes of a still higher excellence will have given still farther extension to human vision, and brought new contributions to the daily accumulating stock of the wonders of human achievement.

A great advance has, then, been made in telescopic observation during the last fifty years; also during the whole of this period the heavens have been surveyed with telescopes of far greater power than any ever before pointed towards the depths of space. A few years before the beginning of this century came Herschel's large reflecting telescope, swelling the tide of discovery, to the amazement of mankind. This was soon succeeded by a succession of refractors, of greatly increased and continually increasing power and excellence, which have found sufficient employment in exploring the fields of research opened by Herschel. To crown the labors in the art and practice of telescopic observation of the first half of the nineteenth century, and the discoveries which are the fruits of them, we now have, near the close of this period, the magnificent Pulkova and Cambridge refractors, which have already shown their ability to surpass their predecessors, and Lord Rosse's "Leviathan telescope," which has revealed new and dazzling wonders to the admiring gaze of astronomers, and penetrated still farther into the depths of immensity than the great Herschellian telescope.

Three great improvements have been made in the construction of instruments for astronomical admeasurement, in modern times; and it is somewhat remarkable that they were all introduced about the same time. These are, "the application of the micrometer" (an apparatus for the measurement of small angles) to the telescope, "by Huyghens, Malvasia, and

Auzout; the application of the telescope to the astronomical quadrant, by Picard, and the fixation of the centre of its field by a cross of fine wires placed in its focus." So great was the improvement introduced by these contrivances, that all previous measurements were almost rendered valueless as aids to modern research. The date of their adoption, viz., the latter part of the seventeenth century, forms the beginning of the period of modern accurate astronomical admeasurement. During this period, there has been a steady advance down to the present time, in the accuracy with which the limbs of the instruments have been graduated, in the steadiness and fixedness dependent upon the mode adopted to strengthen and support them, and in attention to all the various details of their structure; until observatory instruments have been obtained which will furnish an angle to within less than 1″ of the truth. This is sixty times more accurate than the instruments used by Tycho Brahé, in the last half of the sixteenth century; and thirty-six hundred times more accurate than the best instruments used by the astronomers of the Alexandrian school, in the early part of the Christian era.

Quite recently a still greater advance in the accuracy of instrumental observation has suddenly been made, through the introduction, by the inventive genius of Americans, of new contrivances and methods. One of these inventions is the Electro-chronograph, an ingenious contrivance for marking off upon the running fillet, or sheet of paper of a telegraphic register, the lapse of successive seconds of time in correspondence with the vibrations of a second's pendulum, by putting a clock and the register in the same electric circuit, which is closed only when the pendulum arrives at a particular point of its arc of oscillation. In this way the measured flow of time is represented by a series of dots, or breaks, or notches, distributed at equal distances along the fillet. The astronomer observing, we will suppose, the meridian passage of a star, holds in his hand the key to a secondary electric current passing through the same register; at the instant that the star is bisected by the vertical spider-line in the field of his telescope, he presses upon the key, closes the secondary circuit, and a mark is made upon the paper on one of the spaces between the dots, which denote the successive seconds. The fraction of a second is thus very accurately obtained by measurement; besides, the observation is made with greater ease and certainty than by the old method, so that the number of spider lines in the field of view, behind which the star is observed, may be

readily increased, and the mean obtained from a greater number of observations.

Professor Mitchel, of Cincinnati, has also devised a new system and apparatus of observation, with which surprisingly accurate results have been realized.

Not only have observatory instruments been improved since the opening of the present century, but *the number of permanent well-furnished observatories* has materially increased. Astronomical observatories have existed at all periods of the history of the science; but they have greatly multiplied during the last three hundred years. The first of the distinguished observatories in modern times was that of Tycho Brahé, frequently styled the Castle of Uraniburg, erected in 1576; the observations at which were the basis of the discoveries of Kepler and Newton. The royal observatories of Greenwich and Paris, founded a little after the middle of the seventeenth century, (about a hundred years later,) have also contributed incalculably to the advancement of astronomical science. In later times obseratories have been established in almost every State and principality in Europe. During the last twenty years the British Government has established an observatory at the Cape of Good Hope, and the East India Company at Madras, Bombay, and St. Helena. Our own Government and people have also at last waked up to a sense of the importance of having *American* observatories; and several have within a few years past been founded in different parts of our country. There are only three of these, however, that are fitted up on a scale at all comparable with European observatories; viz., the National Observatory at Washington, the Cincinnati Observatory, and the Cambridge Observatory. Valuable systematic observations have already been made at these observatories, and great activity and zeal have been displayed on special occasions, as that of the appearance of a new comet, or the return of a predicted one. By far the most completely and best furnished observatory that has been recently founded, is that of Pulkova, already referred to. It is, in fact, the best observatory of this or of any age; and is a truly noble monument of the liberality and enlightened interest in the cause of science of the Russian Government, by which it was founded.

Having now glanced at the advance which has recently been made in the art of astronomical observation, let us next see what means have been devised and schemes undertaken for increasing our knowledge of *terrestrial magnetism*.

The *polarity* of the compass needle, that is, the fact that a

magnetized needle, poised upon a pivot, always settles into a position in which it points north and south, was not known in Europe until some time in the eleventh century; but, according to Baron Humboldt, "a thousand years and more before the commencement of our era, in the dark epoch of Codru and the return of the Heraclidæ to the Peloponnesus, the Chinese had already magnetic cars, upon which the movable arms of a human figure pointed invariably to the north, as a means of finding the way through the boundless grassy plains of Tartary; in the third century, indeed, of the Christian era, at least seven hundred years, therefore, before the introduction of the ship's compass upon European seas, Chinese craft were sailing the Indian Ocean under the guidance of *magnetic southern indication*."

In the course of the first voyage undertaken by Columbus for the discovery of a new world, he detected the next great truth in the science of terrestrial magnetism, viz., that *the needle did not everywhere point due north*, but that its direction varied from one place on the earth's surface to another. This discovery of unfaithfulness in the mariner's guide upon the trackless ocean was made at a trying hour, and it required all the tact and courage of this enthusiastic and undaunted navigator to free himself from the difficulty and danger in which it placed him. Since the time of Columbus, observations have been made in all parts of the earth by individual observers and governmental expeditions, which have fully confirmed the discovery made by him; and charts have been constructed, showing the directions of the needle as determined by these observations over the greater part of the earth's surface. These are called *variation charts*, because they indicate the angle made by the direction of the needle with the true north and south line, which is called the *variation of the needle*. Towards the middle of the seventeenth century another general truth in respect to terrestrial magnetism was detected. This is, that the *direction of the needle is not constantly the same at any one place*, but varies progressively from year to year, at the rate of a small fraction of a degree per year. This change has since, in the lapse of two centuries of years, accumulated to the amount of a number of degrees. Thus, about the middle of the seventeenth century, the compass needle pointed due north at London; now its direction or variation is 24° west of north. Similar changes have been and are continually in progress over all parts of the earth; but, while the motion has been westward at some places, as throughout Eu-

rope, it has been eastward at others, as in all parts of New England, and in the Middle States. A change, however, in the direction of this motion took place towards the beginning of the present century; and, accordingly, now the north end of the needle in the Atlantic States is slowly moving westward from year to year, while in Europe it is moving in the opposite direction.

Still later it was ascertained that not only does the needle change its direction by slow degrees from year to year, but is also endued with yearly and daily oscillatory movements; and is besides subject to sudden irregular perturbations—tremulous agitations, continuing for various periods of time, and apparently observing no law of periodicity. These agitations have often been observed to be cotemporaneous with the appearance of an aurora in the north, either at the same or at some other place. Arago has indeed found that auroras which are visible only in North America, or in Siberia, appear to disturb the magnetic needle at Paris.

Other important general facts have also been discovered. Thus it has been found that a magnetic needle supported by an axis passing through its centre of gravity, and resting in sockets, will take a position, more or less inclined to the horizon; in these latitudes, under an angle of about 70°. Again, the intensity of the magnetic force of the earth varies from one place to another; and both the intensity and the dip (or inclination to the horizon) are subject to periodical and irregular changes, similar to those of the variation.

Thus much was known, and had been accomplished before the close of the eighteenth century, but no physical theory of terrestrial magnetism was yet inductively established. It was evident that this could not be done without instituting an inquiry into the laws of the variations of the state of the earth's magnetism, as indicated by the variations of the elements dependent upon it, viz., the horizontal direction and dip of the needle, and the intensity of the force of the magnetic action of the earth upon the needle; and this required that a concerted system of simultaneous observations should be made at various places, scattered over the earth. "The first arrangement for this purpose was organized by Baron Humboldt in 1826, at eleven different stations, chiefly in the Russian Empire;" but Gauss of Gottingen has associated his name still more intimately with this great enterprise, first conceived by Humboldt, by devising new methods of observation, and inventing new instruments, which have given to magnetical observations the accuracy of astronomical ones.

(*To be continued.*)

ON THE STUDY OF WORDS.

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THIS is a book after our own heart. We have devoured it as eagerly as many do novels. And yet it works only one vein (most admirably, indeed) of a vast subject. Originally delivered, as would appear, in the form of Lectures, to a class of Teachers, it is, nevertheless, by no means a book for teachers or scholars only, but is eminently a book (as the phrase goes) "for the people and their children." The subject is one which we have within a few years studied with great curiosity, and had written down some of our thoughts and feelings about it, and they have been so much confirmed by reading this book, the author's ideas have coincided almost in expression with so many of our own, that we have been moved to present our views upon the whole subject, upon which he enters in part, the Study of Language.

The study of *language* is not to be confounded with the study of *languages*. The Philologist is more than the Linguist. We have sometimes felt, of late, as if Philology were almost equivalent to Psychology and to Philosophy. And yet, at the outset, to show that we do not give in to the common talk against studying languages, we will say a word on that branch of the subject.

If Charles the Fifth really uttered the saying which has sometimes been ascribed to him, there was more meaning in it than he himself, perhaps, suspected, when he said that "the more languages one knew, the more times was he a man." To understand a new language is to enter a new world—to live a new life—to have one's existence enlarged and multiplied. Because each people's idiom is the expression and image of its external and internal life—the spirit of its scenery, history and character; and when one learns to think in a foreign language, he has almost (to use the Irishman's phrase in the well-known anecdote) *become a native* of the country in which it is spoken. On this principle, how large a life, how many lives, must Mezzofanti have lived, (the late Librarian of the Vatican,) who

was at home in forty-five languages! In this light the passion for learning languages would seem analogous to the yearning which inspires a Shakspeare, namely, the desire to swell and multiply one's individual existence by entering into, or taking into his own, the lives of other men or classes of men. We enter into a nation's life, when we become domesticated in its language. And does not this indicate one good answer to that common argument against *wasting time on learning languages:* that we have all the best things of foreign literatures in translations? We recollect to have heard the father of the famous Crawford family describe how, in an avalanche, (or *gravel-launch*, as they nickname it,) on the White Hills, the slide struck so deep that a large piece of forest came, all standing, down the side of the mountain, (somewhat as we may suppose Birnam Wood, had the miracle been a genuine one, would have come to Dunsinane.) It must be some analogous miracle, striking beneath the very roots of a people's idiom, and transferring the very soil and scenery from one country to another, from one mind to another, that shall produce a perfect translation of a product of poetic genius.

Valuable, however, as the knowledge of many languages is to the Philologist, and vital as it is to the fully accomplished one, it is not essential to make a man properly a Philologist; and it is the Philologist, not the Linguist merely, whose cause we are to maintain in this paper. To speak in Phrenological phrase, it is not the cultivation of the *Organ of Language* we are to recommend, but the application of the organs of *Ideality*, *Causality* and *Comparison*, to the study of Language. Our object is to assert the dignity of the Philological profession, and defend it from the charge of *industrious idleness*. Book-worms have been very much ridiculed, especially in this practical age and country, though there would seem to be more danger, just now, of our people's becoming book-butterflies than book-worms. But the true and thorough Philologist is neither a book-worm nor a book-butterfly, but rather a book-*bee*, gathering from the very *flowers* of speech the sweets of wisdom, and the nectar of divine philosophy. The Philologist is not necessarily a cold, curious, cruel creature, whose heart is in his head, who is obliged to impale his specimens of *winged words* before he can examine, and kill, in order to dissect them. It is a vulgar error to suppose that he can deal only with a dead, dry herbarium or conchological cabinet, or that his entomological cases contain only poor, shivering, crawling insects, stripped of their wings, and pitiable for humanity to contem-

plate. The Philologist may have his heart in the right place, as well as the votary of any other science. He need not be—

> "——— a fingering slave,
> One that would peep, and botanize
> Upon his mother's grave!"

Philology and Poetry are not doomed to perpetual warfare. A clear head and a warm heart are not necessarily antagonists.

Nor is the Philologist a grave trifler, who deals in words and not in things, and loses the substance in grasping at the shadow. There are different kinds of *things*, and one kind called spiritual things, to which class, if words do not belong, they are very closely related. An oriental proverb says that "Words are the daughters of earth, and things the sons of heaven." If so, then we may say (reminded of the sacred tradition about the sons of God and the daughters of men) that there is a marriage between thoughts and words, *made in heaven*, from which there springs a gigantic, it may be, but not always a destructive race. If there are "thoughts that breathe," are there not also "words that burn?" We will not go so far as to assert that thoughts owe that fiery breath of theirs to the atmosphere of language; we would not presume to close the open question whether we always do, and always must think in words; certain it is, however, that the union, and almost identification, of the thought with the word are so rapid as to make them appear to be born at once. Whether we always think in words or not, the reaction of language upon thought is great and evident. It is language, at least, that gives thought shape, if not substance. Language is the mint that makes the metal into currency. Jean Paul says, in his peculiar style: "As the senses of the speechless animals swim in the external world, as in a dim, deafening waste of billows, so would man, in like manner, lose himself in the thickly studded firmament of external perceptions, were it not that, by language, he marks off the bewildering blaze of light into constellations, and, through these, resolves the whole into parts for distinct consciousness. Only through language," he adds, "does the vast, monochromatic map of the universe become an illuminated one."

The author of the "Diversions of Purley," a work which has afforded so much diversion to many writers by the whimsicality of its moral and political etymologies, professes to quote a passage from Shakspeare's Merry Wives of Windsor, in which Sir Hugh, he says, states it as the opinion of divers philosophers, "that the lips is parcel of the mind." We do

not find in our edition of Shakspeare, that the parson says exactly what is ascribed to him—his words are, that "the lips is parcel of the mouth." If, however, he had said what Horne Tooke so ingeniously foists upon him, he would not have used a very violent figure, for we read of the mind's eye, and why not of the mind's *mouth* also? At all events, we know that in the language which has *produced* "divers philosophers,"—the language of Plato and Aristotle,—the relation between the mouth and the mind is made very intimate by the fact that the same word means reason and speech.

No one can think lightly of words, who reflects on the statement: "In the beginning was the Word."

But whom, then, do we mean by the philologist? We answer according to the etymology of the word: *one who studies language philosophically*, or, (to define the definition and give the true force of the word *philosophical*,) one who studies language for the love of that wisdom of which language is the mother or the teacher. He it is for whose labors we bespeak the appreciating sympathy of our readers.

There may have been, now and then, an injudicious champion of philology, who fancied that a thorough and universal understanding of language was going to regenerate society; who would reconstruct government by reconstructing grammar; make men think right by teaching them to talk right; educate the soul by etymology; establish a new social compact in the bonds of a sound syntax, and heal the old sore of sectarian enmity with a philological panacea. Let not their extravaganzas prevent our acknowledging that the phenomena of language are full of interest, instruction and improvement for every thoughtful spirit—that language itself is a broad and beautiful province of nature and of history, containing many a fair field and rich mine, which He, who, by His inspiration, made man a reasoning and discoursing creature, invites every one to enter and explore, not only for the gratification of curiosity, not for the accomplishment of the intellectual character only, but for the elevation and refinement of the spiritual nature.

Not designing a dissertation on this great theme, but simply an illustration of its capacity and its charms, we shall not arrange our remarks very strictly in set divisions, though what we do present will probably be found to fall under one or another of the three heads of the *poetry*, the *philosophy*, and the *history* of language.

It is philology that verifies those fine sayings of Emerson's,

in his Essay on the Poet: "Language is fossil poetry;" "Language is the tomb of the Muses;" "Every word was once a poem." Language *is* poetry. We see it in the use of language. We see it in the most probable account of the origin of language.

We shall not demand of the scholar such a strict fulfilment of his office as a man of *letters*, that he should go very deeply into the study, which has lately revived in some quarters, of the *power and significance of the Alphabet*, though we are satisfied *that* would be far better for any of us than talking scandal or gaping from the very fatigue of what the Italians so melodiously call *farniente* and the English bluntly name *laziness*. We shall not here contend that every letter was originally a picture, representing some creature or thing, to which, in the lapse of time, its resemblance has become lost. We shall not insist, with Mr. Kraitsir, that the *gutturals* express radical force, as the *g* in *egg*—the *liquids* continuance, as the *l* in *life*—and the mutes termination, as the *d* in *doomed*,—(a theory, according to which Père D'Olivet might well be pardoned for proposing to re-translate the Bible after the force of radical letters, especially with the old-fashioned doctrine that the Hebrew names of things were the divinely dictated expression of their very nature and essence)—nor shall we inquire whether Schlegel is right or not in the notion that the aspirates, vowels and consonants correspond and give expression, respectively, to the three parts of man, spirit, soul and body,—a theory according to which we might judge, in some degree, of a nation's genius, by the proportion of each kind of letter in its language, assigning, for instance, to the German metaphysics, to the Italian passion, and to the English common sense,—we shall not go back quite so near to the root of things as this, but shall stop at the words, phrases and grammar of language, thinking ourselves fortunate if we escape, even there, with all our readers, from the charge of ranking among Cicero's "Minute Philosophers."

The *mystery* of language belongs to the poetry and to the philosophy of the subject at once. The fact that man has the materials for making language all about him,—the means in his mouth, throat and lungs, and the motive in his brain,—this does not, as some seem to have imagined, rid us, or rather it does not *rob* us (for it is a blessed thing not to be omniscient in these matters) of the mystery which hangs over the origin and formation of speech. We have not found the *origin* of language, when we have found the *organ* of language. Still

we should gratefully accept whatever is probable on the subject. One of the earliest steps in making language was probably an act of imitation. Wishing, for instance, to communicate to his companion something about the wind, a man would describe it by its rushing sound, and call it, perhaps, something like what its name is in Hebrew, Rooah. We need not multiply instances of what is so obvious to every one, how great a proportion of the words that denote the objects and operations of nature, as the *roll*, the *rattle*, the *roar* of the *thunder*, the *howl* of the *wolf*, the noise of the wood-*tick*, are echoes caught from nature itself. The book of Genesis, in its beautiful, child-like and venerable simplicity, says that when God had made the creatures He brought them to Adam *to see what he would call them*, and that whatsoever he called any creature, *that* was its name. By what kind of logic this is so triumphantly adduced as proving the *immediate*, *divine* origin of language we know not, unless it is to be supposed that the Lord knew Adam would *not* know what to call the creatures, and only meant to show him his ignorance, and tell him after all. The record, however, represents man as inventing the names of the animals; and there can hardly be a doubt that imitation was one of the principles on which he proceeded in doing so. And it is a curious fact that, in some cases, where, in the progress of time and thought, (external nature gradually losing its hold of men,) the name of a creature has ceased to indicate by its sound the object it stands for, by turning to an older language, the corresponding name there is found to have the imitative power. Thus the sparrow, which by some of its more modern names does not express so distinctly to the ear the reason of its being called so, in Hebrew does, for there it is called Tsippor (the chirper).

Perhaps there are few passages in any language which so well illustrate so many things in regard to language at once—recommending the theory we have adopted of the origin of language, and affording a test of Kraitsir's theory of the significance of the very letters of which it is composed—few passages which, at the same time, show so strikingly the capacity of a language to originate and to appropriate, and the power of a writer to make it subserve the purposes of nimble fancy and creative imagination—as that memorable declamation of Shakspeare's, (which, however, we do not remember to have seen accredited for all its manifold expressiveness,) the cry of the mad Lear to the midnight tempest:—

"Blow, wind, and crack your cheeks! rage! blow!
You cataracts, and hurricanoes, spout
Till you have drenched our steeples, drowned the cocks!
You sulphurous and thought-executing fires,
Vaunt-couriers to oak-cleaving thunderbolts,
Singe my white head! And thou, all-shaking thunder,
Strike flat the thick rotundity of the world!
Crack nature's moulds, all germens spill at once,
That make ingrateful man!
Rumble thy belly-ful! spit, fire! spout, rain!"

The language which addresses, directly, the senses having once been formed, the language of sentiment and reasoning would follow naturally enough upon a figurative principle. Thus, Rooah having been made to mean wind or breath, from resemblance of sound, as man began to reflect upon himself, this word, by analogy of certain attributes between air and spirit, such as invisibility, omnipresence, and the like, would recommend itself as the most suitable one to denote the spiritual part of our nature.

With the language of pure, abstract thought, (if there is such a thing) it might be harder to pursue our theory; one remark, however, we would make, that even the terms of the driest metaphysics are often found, when examined, to be full of figurative force. Is not that very attention, which abstract study requires, a straining, a *tension* of the nerves and muscles, as well as mind, to grasp the subject before us?

Surely, then, language *is* (we will not quite say with Emerson, a *tomb*, but) a *cemetery*, a *sleeping*-place of the muses—and they will wake there at a child's call. We have somewhere read or heard of a man who would often take up a dictionary and read page after page with as much interest as if it had been the "Flowers of Wit," the "Beauties of History," or the "Poetical Anthology." As we confess to have found, ourselves, in the derivations of the new Webster's Dictionary more romances than Mr. James ever wrote, we can conceive of the anecdote's being true. And if so, the old lady was not, after all, such a *natural* as one might at first imagine, who having sent in to a neighbor's to borrow "some interesting book," and having received a dictionary, minus the title-page, with the message that *it was all they had*, sent it back, when she had read it through, observing that "it contained a great deal of very pretty reading, though, to be sure, the stories were remarkably short." But (seriously) he who can find sermons in stones, might, one would think, find pictures and poems in words. It is surely a pleasurable, not to say poetic sensation, Horne Tooke awakens in his reader, when he shows him that

the English word *door* is simply the old German word *durch*, which means *through*, the door being the thoroughfare into a house, and that *window* was originally *wind-door*, the window, before the invention of glass, having been a thoroughfare for the wind.

Surely, not only is there a poetry of language, but, when we come to look into it, we find that language itself is poetry, and as the country gentleman in the French comedy found, to his astonishment, that he had been speaking prose all his life without knowing it, so would most men be surprised, if they should examine the nature of their every-day speech, to find that, without suspecting it, they had been all their lives talking poetry.

The common impression is that Philology is altogether a prosaic study—prosaic in its origin—prosaic in its influence. But take now that fine stanza in which Burns describes the Northern Lights:

> "The cauld blue North was streaming forth
> Her lights wi' hissing eerie din;
> Athwart the lift, they start and shift,
> Like fortune's favors, tint as win."

Does any one enjoy that passage one whit the less for learning that *lift* is the Scottish for the same old word which the German *Luft* (air) comes from, and also our English *loft*, the air occupying the loft or upper chamber in the great store-house of nature? Is there not a poem in one word of the title of that much wronged work called "Vestiges of the Natural History of Creation," to him who thinks of the Latin derivation of the word *vestiges;* and will not he who, without imputing to the author motives which he expressly disowns, is willing to receive what light the book does communicate, interpret its title to mean: "Footprints of the Eternal on the Shore of Time?"

The relation of Philology to History—(a subject requiring many volumes, rather than part of a single Article)—opens a door, at once, to the wildest freaks of fancy and the most brilliant deductions of reason. For many generations there had been a presentiment that comparative Philology was going, one day, to cast a most valuable light on the question of the original language of the human race, but, for a long time, the propensity to substitute theory for observation made inquirers neglect to look up what remembered fragments of the primitive speech, preserved by one or another portion of the scat-

tered human family from the wreck of Babel, might, with sufficient research, be discovered in the extant, dead and living, languages, of the globe. Men who were acquainted with only two or three languages beside their own undertook to make Universal grammars and to produce the primitive language, and, when they despaired of finding that, to invent one for universal use; and the languages they did invent were, for the most part, about as philosophical and valuable as the lingo which the children, in our day, used to fabricate, when they wished to talk privacy in public, by inserting the syllable *ulf* before every vowel, saying, for instance, instead of "will you go with me," "wulfill yulfou gulfo wulfith mulfe?" It was for the great Leibnitz, in the latter half of the 17th century, to start men's minds on a new and enlarged track of Ethnographic inquiry. He showed the learned world that it was going altogether too fast in its comparative Philology, when it speculated on the original language and experimented on a universal one with so scanty a preparation of facts. That great philosopher set the example of the patient process which resulted in the distribution of the languages of the earth into certain great groups or families. Of these we naturally mention first, if only because ours belongs to it, the Indo-Germanic or Indo-European cluster, stretching from Ceylon to Iceland, and covering half of Southern Asia and nearly the whole of Europe. Its members are the Greek, the Latin, with its numerous derivations, the Sclavonian, the Teutonic and the Celtic, with their various dialects, the Persian and the Sanscrit.* The discovery of the *Sanscrit*, (the very name of which by a sort of *lusus naturæ*, expresses to a Latin scholar, through a false etymology, its true character), the ancient and sacred language of India, in which the Veds are written, and of which there are said to be still some descendants, in the shape of spoken dialects, in North Hindostan and Persia—this singular tongue, containing words of all the European languages, mightily strengthened the desire and the hope of finally tracing the vast variety of languages to one stock.

But (leaving unsaid much about the Shemite and other minor, less known or out-of-the-way tribes of tongues,—the Japanese, the Biscayan, those of the Turks and Tartars, the Laps and Fins, the Jotuns and Ogres,) we proceed to remark that the languages of Eastern Asia on the one side and the aboriginal languages of America on the other, though occa-

* Of the twelve thousand words in the Persian language, four thousand are German.

sionally they resemble in words the great family of which we have spoken, that lies between them, yet in their structure differ widely from it and from each other. Thus the Chinese is entirely made up of monosyllables strung together up and down without any syntax, leaving the order and connection of the words to be guessed by the hearer from the accents or other natural signs of the speaker. "God knows," wrote one of the early missionaries, who, after ten months' residence at Pekin, had undertaken to preach in the language of the country, "how much this first Chinese sermon cost me! . . . All the words of this language are reduced to about 300, [Dr. Morrison says 400,] . . . . they are pronounced in so many different ways, that they signify 80,000 different things. . . . Every word may be pronounced in five different tones. . . . . I recited my sermon at least fifty times to my servant, before speaking it in public, and yet, I am told, though he continually corrected me, that, of the ten parts of the sermon, (as the Chinese express themselves,) they hardly understood three."

It may be proper to explain what is meant when it is said that there are in the Chinese language but 300 or 400 words. This refers to the spoken language. The written language numbers 80,000 characters, though only about 10,000 are in common use. The greatness of this number arises, partly, from the fact that so many of the words *sound* alike, and so are only distinguished on paper by difference of representative characters, as is done in our language by difference of spelling. Moreover, a great proportion of the characters given in the dictionaries (of which Fourmont had 50,000 engraved on pear-tree wood for his great work,) are made up of several single ones, combined together so as to represent several words at once. The Chinese have a tradition that their characters were invented by a learned man, who, imitating the footprints of birds on the sea-shore, formed the 200 key-signs, or radical characters, which, by combination, have produced all those singular scratches that now amuse the stranger's eye on the tea-chests in every city of the world; and which to our eye look less like the prints of birds' claws, than the track which a spider might leave on creeping out of an inkstand, and running up and down the paper. One great difficulty in the Chinese language to a foreigner is said to be the fact, that the printing does not indicate whether or not contiguous words form a compound. The difficulty may be illustrated by supposing ours a monosyllabic language, and a foreigner to read such a statement as this: "In his way on the sea he met with

some great *hard ships.*" Unless he were more conversant with the usage of the language than a stranger can soon or easily become with the Chinese, he would certainly be exposed to many ludicrous, not to say lamentable, blunders. In the spoken language this is obviated by tone and accent; though, so nice are the distinctions in the Chinese sing-song, that, it is said, the natives themselves are sometimes obliged to draw the character for what they mean in pantomime on the hand; a circumstance quite in keeping with the comparison which has been made of the Chinese to the broken language of the deaf and dumb. One would think, from all accounts, that the greatest *Chinese puzzle* must be the Chinese language itself. There are, in fact, four forms of the language—the *ancient*, the *literary*, the *business*, and the *colloquial* speech. It may be, then, that we speak too sweepingly, when we pronounce upon the broken and disjointed character of that language. The slowness of the nation to produce its dictionary and grammar (or *prosody*, perhaps, we should call it) may cause us to do the language itself injustice. We have given the best account of it we could; and conclude that it either retains its original infant state, or has lapsed into its second childhood.

On the continent we find a family of languages, with precisely the opposite characteristics, polysyllabic and polysynthetic in the extreme, full of composite and complex words, a single one often consisting of noun, verb, adjective, adverb, and preposition, *soldered* together by what Humboldt calls agglutination, so as to express one idea. Thus, in the Esquimaux language, one word expresses the complex idea, "He endeavors to write better;" and in that of the Delawares, a single word (amanganasquiminschi) signifies, "a tree with leaves as large as your hand." The single word *Nadholineen* means, "Come with the canoe, and take us across the river." A Delaware woman invites a dog to give his pretty little paw in one musical word, *Kuligatschi*, which is made up thus: *K* stands for *ki* (thy), *uli* is for *wulit* (pretty), *gat* is an abridgment of *witchgat* (paw), and *schi* is the termination for the diminutive. The richness, regularity, and refinement of these Indian languages is truly amazing. They remind us, especially by what Eliot calls "the curious care of euphony" manifested in their suppletive syllables, of the Greek with its variety of dialects. If the Chinese characters were copied from the footprints of birds, the Indian sounds, one might fancy, were caught from the warbling and gurgling of birds and brooks. Even the gabble of our Penobscot girls, as we have overheard

them by the side of a creek, has reminded us of Wordsworth's poet, who

> "Murmurs by the running brook
> A music sweeter than its own."

Dr. Carus, the Royal Physician of Prussia, in his Psychology, says of our Indian tongues, "They consist, for the most part, of vowels rudely heaped together, like the scream of wild beasts; whereas the languages of civilized Europe are more consonantal languages, giving rather signs than tones, because civilized man has more to do with ideas than with exclamations." Within ten years, however, our American philologists have greatly enlightened their Transatlantic brethren in regard to these wild languages. To give an instance of their copiousness, the Delaware language has thirteen verbs for washing; one for washing the face, another for washing the feet, and so on. In Central America they have verbs in the compulsive mood, in the meditative mood, in the reverential mood, and the like. These things do not seem to favor Dr. Carus's contrast between the American and European languages, as respectively emotional and intellectual. Surely the former show the nicest shades of perception and designation. On the whole, these Indian languages manifest a remarkable blending of simplicity and refinement. The constituent parts of those long words of theirs are truly huddled together, but in a graceful and melodious manner, and their grammar is a marvel and a mystery. Du Ponceau, our distinguished American philologist, says of the Indian languages: "A considerable degree of art and method has presided over their formation. Whether this astonishing fact is to be considered as a proof—as many are inclined to believe—that this continent was formerly inhabited by a civilized race of men, or whether it is not more natural to suppose that the Almighty Creator has endowed mankind with a natural logic which leads them, as it were, by instinct, to such methods in the formation of their idioms as are best calculated to facilitate their use, I shall not, at present, inquire. I do not, however, hesitate to say, that the bias of my mind is in favor of the latter supposition."

It is remarkable that while a nation, so early and so highly civilized as the Chinese, has such a rude infantile language, our savage tribes should have such numerous, finished, and flexible dialects. Must not the fact modify our notions of what constitutes barbarism and civilization? It rather favors, too, we think, the idea that language is made by man, wrought

out of his own nature and the nature around him; the contrast of Chinese unity, or uniformity, and servility with the independence of the American aborigines corresponding very well with the contrast we have seen between their languages.

Notwithstanding, however, the apparent chasm between these Eastern and Western families of languages, it has been shown very distinctly that those of America are based in monosyllables like those of the Chinese and Polynesian families; . . . "the elaborate system of inflexion and agglutination is shown to be simply a further development of the language-forming principle, as it may be called, or the Chinese system may be described, as an arrestment of this principle at a particular early point;" and we may add, that the written language of China, as we have seen, does, after all, contain a system of agglutination applied to its characters, quite corresponding, as far as it goes, to that of our Indian tongues.

Might not a bridge from one of these two opposite systems of language to the other be found in the German, which is so favorable to the formation of compounds by simply stringing words together, for which it is amusingly caricatured in the Leipsic Charivari, or German Punch, where is given the title of a new society in the following mammoth word (which throws the Greek *Hekatontakismuriostotatos* altogether into the shade): "Gasthaustischwäschereinlichkeitbeforderungsverein," or Society for the promotion of cleanliness in the washing of table linen for public houses?

Three questions are started by comparative Philology:—which or what was the first, which is the best, and which or what will be the last and universal language of the earth?

There have been two periods at which the prospect of coming at the original language has appeared most flattering—namely, the period of the revival of letters, when men knew so few languages, and the present period, when we have come to know so many so accurately and philosophically. When the learned world had but a small variety to perplex it, many thought that speculation would soon bring them to the desired point. In the 16th century, a writer claimed for the Dutch the honor of having been the language of Paradise. In the 17th century, the claims of the Chinese were as warmly advocated. In the last century the Celtic, and in our own the Biscayan, a solitary language spoken by a small population in the north-west corner of Spain, have found their champions. The languages of the Semitic family (so called after Shem)

seem, however, naturally enough, to have found most favor with the old divines and Rabbis. And, partly from a vague inference out of Scripture itself, and more especially from a confusion of ideas, in assuming that the language in which the oldest literature exists must be the oldest and the earliest language, the Hebrew, for a considerable time, united the most suffrages in its favor. Eliot, the early New England apostle to the Indians, says, "Oh! that the Lord would put it into the heart of some of his religious and learned servants to take such pains about the Hebrew language as to fit it for universal use! Considering that, above all languages spoken by the lips of man, it is most capable to be enlarged and fitted to express all things and motions and notions that our human intellect is capable of in this mortal life; considering, also, that it is the invention of God himself; and what one is fitter to be the universal language than that which it pleased our Lord Jesus Christ to make use of when he spake from heaven unto Paul?" This last argument for the primacy of the Hebrew language, that Saul heard the voice speaking to him *in the Hebrew tongue*, is quite curious;—just as if any man who should receive a communication from Heaven would not probably receive it in the language he best understood—his mother tongue.

The discovery of the Sanscrit turned the scale again towards the Indo-European family of languages, as the one in which should be sought the parent tongue. The Sanscrit, indeed, it has been lately said, "may be called the fundamental language, as it contains the original and fundamental sounds of all the European languages, and not merely in a superficial resemblance, so that, by means of it are manifested that great fellowship and affinity, by virtue of which all languages form one great growth of the mind." Colebrooke, however, speaks of it as simply a branch of that primeval tongue which became Sanscrit in India, and Greek on the shores of the Mediterranean.

The tendency of the latest philology, so far as we may venture to speak of it, seems to be to reverse the formerly received chronology of the rise of languages, so far, at least, as to make out the language of the mysterious tribes from whom we derive our Teutonic, Anglian and Saxon origin, older than the oriental languages themselves. Whether or not this may be one auxiliary reason for the superiority of the European to the Oriental mind in certain respects—for the fact of the star of empire's having taken its way westward,—we shall not here inquire, but will simply suggest to those who consider how

language reacts upon thought, whether it is not quite credible that our "barbarous" ancestors, when, at the dispersion, they migrated northward before coming down upon the western empire, may have brought away with them the best part of the old speech, and so far laid the foundation for English enterprise and energy. And it is curious that Leibnitz, cautious as he was how he expressed any opinion as to the original language, does say that "the Teutonic seems to have retained most of the natural and (to speak in Jacob Behmen's style) the Adamic speech," and again, that a certain writer, whom he quotes, "is not far out of the way in maintaining that the Germanic, or, as he calls it, the Cymbrian tongue, has as many, if not more marks of something primitive about it than the Hebrew itself."

But, after all, it is not absolutely certain that we do right to understand the sacred tradition literally about the earth's having been ever of one speech. Alexander Kinmont, the author of a very original volume of Lectures on Man, dedelivered a few years since in Cincinnati, maintains that now, *since* the confusion of tongues, "men have but one language, though a diversity of dialects"—the diversity of dialects, according to him, arising "from local circumstances; but the oneness of language comes from the divine brotherhood of the human race," and on the other hand, that before the confusion, the speech of every individual was a distinct language, peculiar to his own genius, which, however, every other understood, "nay, also, that the language of the individual himself would change every month or year, as his affections were enlarged, or his ideas extended." Nor will this seem so paradoxical to any one who reflects on the way in which children catch and coin language, and who considers how much, after all, we ourselves depend, for our quick apprehension of common talk, on the tone, look, gesture, and whole manner of the speaker.

If this be so, the first language which man ever spoke may indeed be said to have been taught by God, but only as every one of the various languages which have subsequently arisen may be ascribed to him, namely, in so far as He has made man a social and discoursing creature, and endowed him with the organs of articulate speech, with reason to invent it, and a capacity and propensity to use the materials provided for its basis in outward nature. Nature, in and around man, is the great teacher of language. "The audible sounds of nature," says Kinmont, "which are nearly everywhere the same, have been moulded and incorporated, in some degree, into all lan-

guages, but imbued, at the same time, with the peculiar life of each." Says Dr. Lieber—"The simplest of all vowel sounds is A, (pronounced as in Italian,) or *Ha*, for it is the mere breathing forth from a mouth opened before the breathing began. If the mouth is closed again before the breathing wholly ceases, the sound *Am* is heard; if the breathing begins before the lips are unclosed, we have the sound *Ma;* if the breathing precedes and succeeds the opening of the mouth, we have *Mam*. What wonder, then, that children articulate, at the earliest period, the sound, *Am, Ma?* What wonder that this sound is uttered so soon as mere animal crying gives way to articulation, and that the only want felt by the infant, that of nourishment, urges it, according to the general organization of all human beings, to breathe forth its desire in the sound *Ma?* What wonder if this first articulate sound come to be attached to the being who furnishes the nourishment, or the breast which yields it? Has not even the bleating of the lamb the sound of *ma* or *maih* in it? Whenever this sound of the lamb is imitated, it is done by the prolonged and tremulous sound of *maih*. What wonder, lastly, if the sound *ma* or *am*, once having come to signify the being that gave birth, is surrounded, by her affectionate care, with all the dearest associations of love and holy disregard of self? In almost all languages, the word for the female breast, the mother, or the nurse, is derived from this sound. The Latin *mamma* and *mater*, the Greek μαμμα, the modern manna, the Hebrew *Emm*, the Persian and Hindoo *Ma* for breast, the Greek μητηρ, our mother, the German *Mutter* and *Amme*, (for nurse,) the Gaelic *mam*, the Swedish *mamma*, the Albanian *mam*, the Wallachian *mama*, and innumerable others, are all in point. We meet with it again in the Polynesian languages, as the philological part of Captain Wilkes' Exploring Expedition shows."

The learned author of the article on Language in the American Encyclopædia thinks that the shock given to the brains of the Babel-builders confused them to such a degree, that they entirely forgot the old language, and each cluster, after the dispersion, had to form a new one for itself, according to its condition and character, and yet, while warning us against being misled by the false lights of etymology, he admits that the affinities which have been shown to exist between words the most dissimilar, in languages the most remote from each other, may well make us confess that there is no knowing what investigation may bring to light; for "who would now suppose," he asks, "that the English *wig* is derived from the Latin

pilus, (a hair)? Yet this may be easily shown: Latin, *pilus;* Spanish, *pelo*, thence *peluca;* French, *perruque;* Dutch, *peruik;* English, *perwick*, *perwig*, *periwig*, and, by contraction, *wig*."

Philology and Ethnology are fast justifying this writer's admission, making it more and more probable that we are getting back towards the ground language of man, and that we shall find it to be, not Hebrew, nor Sanscrit, but simply human and natural. Dr. Wiseman suggests, though he does not develop the idea as one could wish, that each language, in turn, has been providentially brought in, just when and where it originated, to answer the purposes of that Divine wisdom which has distributed the nations of the earth in space and time, *determining the times before appointed, and the bounds of their habitation.*

And this thought should be borne in mind when we undertake to compare the different languages in point of excellence. Eliot, we suspect, exaggerates the capabilities of the Hebrew, grand medium, as it is, for poetry and piety. Philosophy, we incline to think, demanded an apter medium, for example, the language in which the world-religion has been transmitted to us—the magnificent language of Greece—that most perfect of the immortal dead languages, so called because the men are dead who used to speak them, but which still live in their spirit and in their writings.

Two of the most eloquent eulogiums on any languages, have been pronounced on the Greek and the German. "Greek," says Henry Nelson Coleridge, "the shrine of the genius of the old world; as universal as our race, as individual as ourselves; of infinite flexibility, of indefatigable strength, with the complication and the distinctness of nature herself; to which nothing was vulgar, from which nothing was excluded; speaking to the ear like Italian, speaking to the mind like English; with words like pictures, with words like the gossamer film of the summer; at once the variety and picturesqueness of Homer, the gloom and intensity of Æschylus; not compressed to the closest by Thucydides, not fathomed to the bottom by Plato, not sounding with all its thunders, nor lit up with all its ardors, even under the Promethean touch of Demosthenes!"

"What language," says Börne, "can bear a comparison with the German? What other is so rich and powerful—so mild and so magnificent—so sweet and so soft as ours? It has a thousand hues, and a thousand shades. It has a vocable for the smallest wants of the moment, and a word for the deepest

feeling, which no eternity can exhaust. It is powerful in necessity, pliant in difficulty, terrible in anger, tender in compassion, calculated for the expression of every passion, and of every sentiment. She is the faithful interpreter of all that heaven and earth, sky and sea are saying; what the rolling thunder is echoing; what coy love is trifling with; what the noisy day is babbling, and the silent night is brooding; what the dawn is painting green, gold and silver; and what the most serious ruler on the throne of thought is meditating; what the maiden prattles, the quiet brook murmurs, and the slippery serpent hisses. . . . . The Englishman snarls, the Frenchman chatters, the Spaniard gurgles, the Italian sings, the German alone talks."

Niebuhr regarded the Sclavonian as the most perfect of living European languages, and the accomplished authoress of the recent work on that language gives us great reason to confirm the opinion. It contains 1605 radical syllables, and it has a thoroughly philosophical grammar. Rough to the eye, it can be very soft and smooth to the ear, especially in the Servian branch, spoken nearest to Italy. It is better fitted than any other to imitate the old classic metres. It abounds in consonants, which, says Mrs. Robinson, are the signs of ideas, the vowels being mere servitors of the consonants. "Even harsh syllables," she adds, "belong to the necessary qualities of a language, for Nature herself has harsh sounds, which the poet would be unable to paint without harsh-sounding tones."

Kinmont ventures the prediction that the Spanish is to be one of the two prevailing languages of the globe. And so far as the derivation and composition of a language speak for its adoption, his idea is favored by the facts, that there is no language, perhaps, which has had more elements conspire in its formation, and none in which vowels, consonants, and aspirates are so well distributed.

The other language to which Kinmont refers is the English.* It is a pretty common impression, on both sides of the water, that the English race, mind, and language are destined to inherit the earth. We are concerned here only with the language, and we want words to express our sense of its excellence. The landscape of our language is rough, indeed, magnificently irregular; it is no French court-park; and may the time not come in our day, when, for the sake of smoothing the passage through its odd spelling from eye to ear, the winding, hilly, picturesque country-road of our good old mother-tongue shall be straitened into a phonographic railroad! We love the exercise of climbing about among our bolders and crags of primitive granite, and secondary and tertiary forma-

* A family tree of languages, with all its ramifications in proper position and proportion, is a thing hardly to be looked for before several generations of philologists shall have been on the stage. It may interest some others, as it has ourselves, then, to learn our English pedigree. The English language is *the Anglian vein of the Saxon leaf of the Germanic twig of the Teutonic branch of the Gothic limb of the Indo-European stock.*

tions, (*cropping out* in such glorious geological confusion,) to catch fresh breezes and glimpses of earth and heaven at every turn. Perhaps, indeed, our language *has* devoured more than it has digested. It is rather generous than greedy. It hath a marvellous hospitality. As, a year or two since, all the distant cousins of the great family held a family festival in the capital of England, so in the language of England, as at a great polyglottal festival, do all nations find themselves in entire specimens and in perfect amity. We are not all aware how many languages we really talk when we talk English, even bad English. Few, perhaps, suspect that our very irregularities are regular forms borrowed from other tongues, that the reason why we do not say, *good*, *gooder*, *goodest*, must be sought in the Persian, or that such vulgarisms as "*I be*" and "*he a'nt*" are true old Saxon and Swedish.

Our language is rough to the ear sometimes, but it is rough *and ready*. Its

> "Teutonic jar
> Shakes the racked axle of Art's rattling car,"

at times, as it jolts away over the crooked ground, but it is "fitly joined together and compacted by that which every joint supplieth, according to the effectual working in the measure of every part." That our language can be as liquid as the Greek of Bion and Moschus, witness Moore and Campbell; that it can be as majestic as the Hebrew, witness Milton, Shakspeare, and the Common Version of Job; that it can be, when it chooses, monosyllabic and pugnacious as the Chinese Ping-Shing* itself, witness a hundred English or American poets. The English may be the only language answering to Pope's satire,

> "Where ten small words oft creep in one dull line,"

but it is also a language

> Where four and ten short words can smite and sting in one long line.

In the English battle-scenes the bullet-like monosyllables are more than "half-battles."

* "A Chinaman loves to thunder with words, and seems to feel as much satisfaction in firing a volley of sounds at an adversary as a pugnacious man would in dealing out so many blows. On such occasions the sustained modulation, or Ping-Shing, is greatly in request, since it enables the speaker to wind such a long-continued blast into the auditory porch, that a discharge of monosyllables must have tenfold the effect they would have had if their rear had not been covered by such a reinforcement."—*The Chinese as they Are.*

"Stand to your guns, my hearts of oak!
Let not a word on board be spoke!
Ram home the guns, and sponge them well;
Let us be sure the balls will tell!"

What a fine sprinkling of monosyllables in Scott's description of the discharge of the English archery at the battle of Bannockburn, and, particularly, how the rapidity of their succession in one of the lines makes us hear the arrows rattling against the coats of mail!

"Earl Gilbert waved his truncheon high,
Just as the Northern ranks arose,
Signal for England's archery
To halt and bend their bows.
Then stepped each yeoman forth a pace,
Glanced at the intervening space,
And raised his left hand high;—
To the right ear the cords they bring,—
At once ten thousand bow-strings ring,
Ten thousand arrows fly!
Nor paused on the devoted Scot
The ceaseless fury of their shot;
As fiercely and as fast,
Forth, whistling, came the gray-goose wing,
As the wild hail-stones pelt and ring
Adown December's blast.
Nor mountain targe of tough bull-hide
Nor lowland mail that storm may bide;
Woe, woe to Scotland's bannered pride,
If the fell shower may last!"

"Comparisons are odious" and endless, otherwise we might admit that one can hardly match, in English, Homer's description of the vibrations of Apollo's bow-string in the single line—

"Δεινη δε κλαγγη γενετ' αργυρειοιο βιοιο,"

Direful sounded the silvery bow with its clanging and twanging;

but in the staccato power we shall not admit that any language can compare with ours. In what other language could the Corn-Law Rhymer have expressed the intensity of his moral indignation?

"Ye coop us up and tax our bread,
And wonder why we pine;
But ye are fat, and round, and red,
And plump with tax-bought wine.
Thus twelve rats starve while three rats thrive,
(Like you on mine and me,)
While fifteen rats are caged alive
With food for nine and three."

The English is the great language for business, dispatch, and

execution in every department, if not what Nelson Coleridge calls it, the language of mind.

But the fact of the numerous intermarriages among languages is perhaps a prophetic one; and while the telegraph is chattering all over the globe, bringing mankind into one great parlor, we must not be too confident as to the final and exclusive prevalence of any single one of the existing tongues. Perhaps, after all, as *it*, proverbially, *takes all sorts of people to make a world*, so every existing tongue may be destined to play its part in the final and universal language of the earth, *if there should ever be one;* and we will, therefore, leave here all those speculations to which Philology, in connection with Ethnography, gives rise, in regard to the past and the future, and content ourselves with the curiosities which the labors of the philologist, whether they are ever to come to an end or not, disclose to us along the road.

Comparative Philology affords an interesting index of the character and manners of nations, and the changes of times. As Mr. Trench well says, after Emerson, language is not only fossil poetry, but fossil history and fossil ethics. If "the proper study of mankind is man," the study of language is a proper, certainly a pleasant study, for the mental and moral peculiarities of nations imprint themselves upon their languages more deeply than any one who had not attended to the subject would suspect. The philologist is a tourist, seeing everywhere, as in a glass, "the cities and customs of men." He "surveys mankind from China to Peru." "The best history of a people," some one has said, "is to be found in its dictionary." The writer of a late article in an English magazine on the modes of salutation used in different places and periods of the world has some fine observations which might be extended farther than he applies them. "Peace be with you!" was the Oriental benediction, telling the blessedness of simple security to the traveller in the Eastern deserts. "Rejoice," was the greeting of the gay Greek. "Hail," (be healthy,) was that of the stalwart Roman. "How do you carry yourself?" asks the graceful Frenchman. "How fare ye?" is the salutation of the Dutch skipper. "How do you stand?" says the stately Spaniard. "How do you *do?*" inquires the practical and driving Yankee, who does not believe in a man's having "leisure to be sick." Listen to the Spanish language. With what a Castilian stateliness it sweeps along! And do we not hear the heavy heel of self-esteem strike the ground, as the emphasis falls on the penult?

Cross the mountains. Do we not see at a glance that the French are fond of out-of-door life and sunshine, when their very phrase-book expresses the idea of fine weather by words that mean literally, "It makes beautiful time?" Cross the Rhine. Can we wonder at the proverbial patience and perseverance of the Germans—their studying sixteen hours a day, and the like, when we look at the enormous sentences which they have to climb over to reach the key-word, which makes their language remind one of the absent-minded man who locked his trunk and left the key inside? Is it strange that a people who have been accustomed from childhood to wait through a whole page of brain-stretching modifications for the main and leading word, should wait through so many pages of their national history to have a king fulfil his promise of leading them into the Holy Land of constitutional liberty? Well might Börne say, "Our language, she is our mother." Its language is, in a sense, the mother of every people, and the children show the features of the parent. How much it speaks for the Romans, that in their language the same word meant virtue and courage, and that it was derived from that same radical syllable which was also the root of the words that denoted vigor and manhood! How much more it speaks for them that the same word *pius* expressed the affection of children for their parents, and of parents for their children, reminding us of the beautiful wish of the poet, that his

> "Days on earth might be
> Bound each to each by natural piety."

Could the Roman character well fail to decline with its language, when Latin became Italian, and almost every other word was maimed of its final consonant?

The history of the English language, and perhaps of any other language, would afford an interesting illustration of this branch of our subject, namely, the aid which philology furnishes the student of manners and customs, times and nations. But this topic, also, would require, at least, an article by itself, and we can only glance at it with a single reference to the gradual translation of the Bible into the English tongue. As the stream of revealed truth, issuing forth from its oriental fountains, discloses, through its pellucid waters, the earthly bottom over which it flows—the various qualities of those human minds which were the channels of conveying it to the world—so do we, also, see on its surface images of the characteristics of the ages and countries through which it has passed

in the processes of translation. Take for instance, and to this we must confine ourselves, the venerable version of Wiclif. We are carried back and set down, at once, in the fourteenth century. Vividly is pictured out to us a time when the English language was struggling to shape itself, and when the English mind, too, was struggling to shake itself free from the thraldom of the Latin language and church. We see the great caldron boiling and bubbling up, in which are still discernible the crude and heterogeneous elements out of which was to be concocted our extraordinary language; and at that time, it seemed as if every man, in his eagerness to express himself, might fish out such fragment as seemed best in his own eyes, without fear of publisher or public. In Wiclif, as a translator, we see a representative of the Saxon and Protestant soul of that day. He cannot at once and entirely extricate himself from his Vulgate barbarisms—he must call *pearls*, *margarites*, but he is determined, if possible, to get Pontius Pilate's name into English, and out it comes, *Pounce* Pilate. See, too, how old Wiclif's page images, in other respects, the manners and character of his times. Jesus and his disciples go about (not from town to town, but) from castle to castle. The receipt of custom where Matthew sits by the sea of Galilee, is a *tolbooth;* and the disciples, on one occasion, address Jesus by the title of *commander*. Curious, too, is it to notice the manner in which the variations in the successive versions reflect the changes in public sentiment or usage. Thus, in translating that passage where Luke describes the multitude of celestial beings that attended Christ's nativity, Wiclif calls them the heavenly *knighthood;* Tindale, a century and a half after, the heavenly *sowdiers;* the Geneva Bible, the heavenly *army;* but in our modern versions the expression is softened down to the heavenly *host*.

We have suggested some of the uses, as well as "diversions" of Philology. We have not left ourselves space to speak of the direct bearings which the study of language, by leading to a more exact, considerate, and careful use of language, and appreciation of that which one hears used, would have on the interests of human life, public and private, "taking the thunder out of" the denunciations of dogmatism, exposing the emptiness of the watchwords and war-cries of sectarianism and bigotry, and substituting for vague declamation a kind of language that should be the clear mirror of reason. Horne Tooke seems to have afforded Hazlitt a good deal of merriment by his etymological argument for charity, in undertaking to derive the

word *truth* from the Saxon *troweth*, and thus, by showing that, whatsoever a man troweth or thinketh is truth to *him*, to expose the absurdity of men's quarrelling about the absolute truth, when all truth, so far as we can know it, or are responsibly concerned in it, consists in relative truth, that is, in those views of truth which each man attains by being true to himself and his thought. If there was any error here, it could only have been in the derivation of the doctrine, not in the doctrine itself, which reason and scripture teach, if etymology does not; at all events, Hazlitt's reply was more pert than profound, when he said, turning, as he fancied, Tooke's weapons against himself: "Others may believe this account of the matter, if they can. *I think* it is not true—I trow it is not—therefore it is not."

But we must leave the whole subject now, with all the numerous inquiries, speculative and practical, moral and metaphysical, into which it branches, and at which we have glanced too rapidly, to the reader's own researches and reflections; and we take this leave of our theme with the confident assurance that the study of language is destined to command an increasing interest, and take a higher and higher place among the studies which belong to the education of man.

MUSIC.

Musical History, Biography, and Criticism. By George Hogarth. Redfield, New York.

No man can express his debt to Music, nor, indeed, to any art; and we take the title of this cheap issue of a popular sketch of musical history only as the text of some observations upon the general subject of art, with the hope of discussing more directly in a future paper the condition and prospects of music in America. As yet it has no distinctive character: it is eclectic and vague. We follow the fashion of an elder public, usually content to receive the fashion as law, without searching its reason, not infrequently yielding that homage to the art of music which is so generally accorded to other subjects upon which the public rarely reflects, but whose position has been affirmed by that invisible and mysterious court which awards fame. The homage to literature and art is one of the

most glowing indications of the universal loyalty to genius, not only in its direct manifestation, as when a man delights in a Poet because he has found his own private and humble fancies masking as royal thoughts in the Poet's verses, but in that indirect reverence upon faith, which perpetuates Plato, Bacon, Montaigne, and the old Greek Dramatists, in their lofty places. For in the range of any individual's acquaintance, there will scarcely be more than one man or woman who reads Plato, for instance, with sincere satisfaction, and for the simple pleasure of the reading. But to every man and woman, in every acquaintance, the fame of Plato is a fact as fixed and shining as a star. This shows the imposing supremacy of genius. For not only has it the homage of the world, by the direct appreciation of the few scores who genuinely please themselves in the contemplation of its operation and results, but also in the implicit reliance of the rest upon the judgment of those scores —a reliance founded in the same loyalty which walks by faith and not by sight.

If this is true in literature, which avails itself of a means of expression common and natural to all men, it is even more striking in the realm of art, which, in its various departments, seems so often to rely for just understanding upon a happy accident of nature, as in music, an ear; in painting, an eye for color; in architecture and statuary, a shrewd sense of proportion. But, if more striking in this realm, it is no less true. Its practical result is the same. Ask in any promiscuous company who are the great painters, and a unanimous chorus peals in answer the mighty names, and the glory of Michael Angelo, of Raphael, and Titian, is told once more. Yet not many of those who unhesitatingly respond, have the slightest idea of the essential reason of what they affirm; few have even seen the pictures; fewer still will be able to indicate in what the Venetian and the Roman differed and excelled. Or shall the question be of music, the answer as promptly follows, and from lips that would not cease to babble, except from reasons of conventional propriety, while the sublimest strains were quivering and breaking through the rapt air. It thus seems the quality of genius to impress itself so profoundly upon the appreciative sense, that all other intelligences brought in contact with that appreciation, as with an overcharged electrical vessel, receive the spark directly, and become magnetized, and *en rapport* with a mystery which charms while it confuses. Thus a very few become the high-priests of the many, and the great names of every department are continually consecrated

to universal respect, by the intelligence of a handful among the myriads of men.

Of the mysterious Truth and Beauty, whose sensible appeal to us takes the various forms of art, no critic can give an account, and the artist is the first to acknowledge that his utmost success is only an approximate result, that it conveys only a hint or a remembrance, while the serene sky shines on unpainted, and the eternal harmonies are yet all unsung. No susceptible man lingers, entranced, upon the last moments of a festival, watching the happy game of youth and beauty—its smiling mien, its flowing grace,—without being borne away upon the music which inspires the whole, far and far away beyond the place, the persons, and the occasion, into a realm of which nothing remains afterward defined in his memory but a pensive thought. Thus Jean Paul Richter said to music, "Thou speakest of what can never be!" But what he said to one art, the mind says to each one in turn. The pictured face of the Madonna still reveals a beauty, "fairer than you can believe." Emerson calls it all "illusion;" and who amid the shifting cloud-play of life but acknowledges it? But if it be illusion, it is only as the light-house, hidden now by mists, and now by breakers, is an illusion. It seems to shrink, and glimmer, and go out, while it is only the restless heaving of the immediate neighborhood of the mariner that really quivers. So the gleams and glances of an eternal satisfaction which appear in every success of art, do not show that satisfaction to be uncertain or various, but only remind us that something obstructs the view. So on showery April days the eye slips through rounded cloud-rifts to the blue, which seems mottled and vague, is now blotted out, and now restored, but the blue is changeless all the while. In life, genius is the eye which passes through the cloud-clefts, and seeing the sky, struggles to repeat its vision. But the action of genius is intermittent. It sings to-day, and is dumb to-morrow. Hence, even with it, the old game returns: "away, away," it cries with Richter, "thou speakest of what cannot be." But it only seems an impossibility, because no genius was ever yet so unflagging as to float, sustained forever, in the purest height of Truth and Beauty.

Thus we reach the fact that Art is a perpetual promise. Like a warm wind in winter, its rare and rich triumphs overcome the mind with the sweetness of the tropics of Truth. It is the highest achievement of art, as it is of nature and of all noble and heroic action, to refresh us with that sense of the

infinite, to which all other results seem partial and insufficient. Thus, of a portrait we require that it be more than the likeness of an individual. It must express an age, a feeling, something cognate to our sympathies, which the individual is not. The portrait of the Doge must be more than Foscolo; it must be Venice, grand and grim. Nor Charles the Fifth contents us upon canvas, if he be not also stately Spain. Thus, too, the instinctive disgust of artists when they hear the Daguerreotype called "an art," and the operator an "artist." The feeling is founded in their consciousness that the work must necessarily lack this large and impersonal character. The most accurate rendering of individual features upon the chemical plate is not so much, in the highest view, as the features themselves. That is, the observer does not see in the picture what he cannot, with his mere eyes, find in the face. But a true portrait is the intrinsic character and significance of the subject made manifest to every observer; and the credentials of the artist are his ability to perceive that character so justly, that his obedient hand easily produces the result. With what tender and pathetic interest the traveller walks through the Italian galleries, finding upon palace walls portraits of a race which he never knew, nor shall know, but which have for him an inexplicable fascination, and become, unconsciously to himself, a moulding influence throughout his life! How well we remember in the Palazzo Manfrini at Venice a portrait of a boy by Velasquez, to which no name was appended, and of which the catalogue gave no account! The face was full of the passionate hopelessness of despair peculiar to the southern temperament when suddenly stricken. Its tearful woe still shadows memory. But what was the secret of that picture's influence, as that of the portrait of Ariosto upon Byron, if it was not the impersonality and universality of its character? It was none the less interesting, of course, because it may have been studied from an actual head,—but the charm for the spectator lay in this, that the artist with sensitive perception had detected the general secreted in that particular, and had exposed it, with all the sweet sorcery of his art, to universal attention.

Now this effect of art, for which we have no better expression at hand than the clumsy and rather vague one of "suggestion of the infinite," is precisely the most delicate and subtle part of it. It is the answer to the instinctive demand that everything in art must be symbolical. If Greenough makes a group of the Hunter subduing the Indian, it must be something

more than stalwart Jonathan throwing lithe Osceola ; it must show directly the mystery of races,—the fact of history,—the white subduing the red ; otherwise it is no work of art, but a clumsy copy in stone of a frequent and ugly incident of life, and is as much less than that, as marble is less than flesh. It is, in fact, merely the daguerreotype again. But this result is attainable only by genius. No rules can be given for it. It is easy to teach the mixing of paints, but who shall show the mystery of the picture? It is easy to make and sharpen elaborate tools, and, with diligence, to carve marble into the deceptive semblance of life ; but what academy shall impart the secret of causing it to live in immortal and overpowering beauty? Out of all the quarries of all the mountains have come one Jupiter, one Apollo, one Venus. In all the dazzling wastes of color there is one Transfiguration, one Assumption, one Sistine Madonna. From all the heard and unheard melodies of nature, since the first lark soared in the first sunrise of Eden, there remain one Handel, one Beethoven, one Mozart, as interpreters. That "gives us pause." Nor do we mention these instances as if no other men nor other works ever were, but simply to show how readily the large successes and the successful servants of art may be numbered. And more than this, we mention them to show that these great results are the work of nature and beyond human will, as much as flowers and stars. It is as much the law of genius to create, as of seed to germinate ; and it is as easy to conceive the Koh-i-noor diamond unformed, as the Sistine Madonna unpainted. "Tell me, O Mozart," said his friend, "how do you compose these miraculous melodies?" "I awake in the night and hear them singing in my mind," replied the master.

In days when the tame profanity that labor does everything, is so easily current, it is well to encounter the truth that labor is but the lackey of success. Because genius is often wild, whimsical and irascible, making and taking its own way, quietly walking out of the ruts and insisting that the wide horizon is a wall more lordly than the roadside hedge—it is easy to commend steadfastness as the secret of success. But the falsity has a double sting. It theoretically reduces life to an exercise of the will, depriving it of all salient, unforeseen and surprising inspirations, and it also depreciates the authority of genius. No candid reader will misconceive our remarks. We grant everything you wish upon the other side. Without an eye for color and form, and without assiduous devotion to the mastery of means, Raphael had "uncommended died." Only by

watchings early and late, by long and liberal study, by heart-wearying mechanical failures, by trimming, and pruning, and amending—by Horace's and Walter Scott's ripening years in the drawer—have the germs of feeling expanded into great works. But on the other hand, consider that every favor of nature could never draw a peach tree from a soil in which no stone had fallen—nor long iteration of the sweetest South tempt roses from the sea. Genius willingly yields to these lower laws of expression, as the king submits to be apparelled. But when you insist that the royal robes are the monarch, you are guilty of appalling treason.

And, to draw these general observations upon art to the point of our especial subject, it is quite as useless to speculate upon the probable character of any intellectual development, whether in departments of art, or literature, or science, as upon the dispositions of unborn children. Valiant efforts are made to pique our national pride, for instance, about an American literature, and every patriotic son is summoned to lay his hand to the work, and share the glory of the triumph. Unhappily, if we knew in what direction to move, we could easily forecast the character of the result; and if we could do that, it would not be worth doing. If the earliest stone-cutters of Greece could have foreseen the Parthenon, the intermediate centuries would have been singularly superfluous—because the consciousness of not sharing the splendor of the ultimate triumph would have disheartened all the workers. Nature does differently, so far as we can see. She spreads around us perpetual spring. "Sow the seed: sow the seed," is her endless refrain, and she suffers no man to live to enjoy the harvest of his own sowing. Casting the lot of Titian in Venice, she gets out of him sundry pictures. The poor man thinks it is all Doge Manfrini, and Dogessa Francesca—or all the Virgin Mary of his church, and brave Peter the Martyr. He goes on experimenting in colors and exasperating all posterity, because he leaves no theory of his palette. He journeys to Spain and thinks he is painting portraits of ineffable and unapproachable Emperors and Grandees, returns to Venice in the Lapland-night of his years, and is suddenly extinguished by the plague. The ideas that guided that wondrous hand, and with it drew immortal lines, which used the fancy of a painter, drunk with the burning beauty of Venetian sunsets, and adorned and illustrated with it, its own inscrutable intentions and meanings, —all this, which the name Titian now implies to us, was probably very slightly apprehended by the Venetian painter.

All this forecasting, determination, and mathematical management of the divinity of life, merely puts out the eyes that are searching for beauty, merely deafens the ears that hearken for melody. So it would be as well not to try to look round a corner. American art, in whatever development, will have something entirely surprising and new. Our prophecies are merely the reflections of our experience of the past projected into the future. It is wisely provided that we believe fully in the grandeur and triumph of whatever aim interests us. An eloquent writer declares that nature obtains great results only by exaggerating—almost into insanity,—certainly into fanaticism, the peculiarity of the agent. Lost in mystery on every hand, we believe that every step advances us, but we cannot see its relation to our whole progress—nor justly estimate the comparative happiness of men or periods. This only, in matters of art at least, we can say with Ben Jonson,

> "How near to good is what is fair,
> Which we no sooner see,
> But with the lines and outward air
> Our senses taken be."

Approaching the divine mystery of Music, we must allow for it, æsthetically, all that we have claimed for Art in general. Its final cause, like its deepest triumph, is as inscrutable as the instinct of love and beauty. No man can say why sweet sounds please him, more than why he delights to see the sunset, to taste the rapture of love, or to inhale the fragrance of flowers. That it delights him because he is so made as to be delighted by it, is the utmost reach of his wisdom. Then he curiously investigates the means by which this mysterious delight is imparted to him. He searches the law of acoustics. Still experimenting, he finds singular facts and analogies, and certain fundamental principles upon which the expression seems to rest. History illuminates his research in many ways; scientific acumen reveals much. Inflexible laws, invariable appearances and results arise, and at length the loiterer who listened wandering, soothed, inspired and saddened, while the sea smote the shore, or the wind of midsummer rustled sea-murmurs from lofty pines, while all the hum of Nature accorded in his ear and fed his fancy with the honey-dew of dreams, has discovered a means of hinting what wind and sea, and inarticulate summer-air struggle forever and vainly to express.

We do not mean to say that the science of Music is founded in imitation. Art, so far as we know, is an inward necessity,

not an external suggestion. The sound of the sea no more naturally suggests an imitation of it than the sunset of its color. In fact, art aims to make more manifest in forms whose elements already exist in nature—just that which nature in her various aspects appears to indicate. For the co-operation of Art with Nature is one of the most beautiful facts of life, and nothing is so fatal as the flippant distinction popularly made between the two. To confound Art with artificiality is as wrong as to confuse sentiment with sentimentality. Hence, the half-concealed sneer of the so-called "practical" men at what they term the vagaries of "cultivation," as if elegant culture were a very thin and shallow affair compared with the experience which they have acquired in rough wrestling with the world, is as unsound as it is selfish and cynical. For what is it that truly delights a man in a gallery of the arts, or in reading a good book, but the same sense of reality and reference to the eternally good and true, which meets the active man of affairs at every turn? The most successful merchant, for instance, has entirely lost his life, and is bankrupt of the only decent treasure in the world, if the result of his long intercourse with men is disbelief in them. To "know the world" is usually the synonym of the most shallow skepticism, and the injustice of the position of the defenders of "actual life" toward Art, and Literature, and high education, is only surpassed by its absurdity. Beethoven, Dante, and Michael Angelo, were the most eminent of practical men, because they dealt with absolute, and not with apparent realities. It does truly seem, even in this world, that to reveal the sternest thoughts and the highest hopes with all the affluent splendor of expression afforded by the arts, is about as "practical" a service to immortal beings whose permanent interest is in ideas, as the successful importation and sale of large cargoes of tea and spices, or the erection of colossal blocks of buildings. And the instinct of society illustrates it. For what is the end to which fortunes, once made, are devoted? Why does a man wish to be rich? Not that he may dine and dress finely, or cause others to do so, but that he may be able to possess and study the works of genius. And why does he wish to do this, but in obedience to the instinct which assures him that they are of permanent value, that they are shares of a stock that never falls, and which divides dividends of unrepenting happiness? Doubtless a nobleman also regards his wealth as a means of benevolence, of which he is appointed administrator by God for the good of others. But, nevertheless, he does not cease to

regret the necessity of clothing men's bodies instead of adorning their souls, even while he knows, distinctly enough, that the one must precede the other. It is a much pleasanter office to quicken the heart's sensibility to the immortal love in which we lie, than to offer a bowl of soup to famishing poverty. Of course, there is too often no discretion in the matter. The devoted missionary to the Five-Points does not need to perplex himself with choice. To feed the hungry, to clothe the naked, to raise up the fallen, and to heal the bruised, is his Christian and mournful office. Not that it is mournful to console the broken-hearted, but that it is sad hearts should break. It is terrible that the spirit and operation of society should engender the Five-Points; and the prodigious truth meets us here, that social obedience to the lofty and lovely laws of nature, hinted and revealed in all forms of art, would remove and render impossible that state of things which bowls of soup can, at best, only ameliorate.

Thus we must regard art, in its broadest sense—art which necessarily co-operates with the religious sentiment—as the most potent of preachers. And of all its forms, none is so subtle in influence, and none so universal, as that of music. The general subject has been so genially and learnedly treated in an article in the "Quarterly Review," lately republished, that it is unnecessary to renew the discussion here. But it is certainly not ill-advised to have rapidly traced in the preceding remarks the broad and catholic foundation of music, as of all other forms of art—nor to have seen that, while it is the one, perhaps, most generally regarded as purely ornamental, it does truly converse with those highest and purest instincts out of which are the best issues of life. It is remarkable that music kindles a warmer enthusiasm in the general mind than any other art. A certain degree of cultivation seems to be required, properly to enjoy a fine picture or statue, and even then the enjoyment is not of that flaming, impulsive kind produced by the other art. There is a blending of intellectual perception in it which calms and chastens the ecstasy of delight. A certain precision or limitation of form belongs to this intellectual view, which interferes with the boundlessness in which the mind revels, under the influence of the other. But from this very fact, possibly, arises the want of its direct applicability to life, except under peculiar circumstances. The picture of a friend, of a dead hero, of a great event, or of an inspiring landscape, gives a determined tone to the thoughts of the spectator. And this is true of every art that deals with

visible forms. But a strain of music, like the perfume of a flower, is not particularly, but generally suggestive. It begets a mood of mind more than it supplies it with a nucleus of thought; and this, too, even when a design is indicated, as in a song,—for it is the peculiarity of music to be quite independent of its association with other things. In every opera the words indicate one thing, and the music another; and it is worth nothing in contemporary Italian opera, which sets passages of history to music, that the mind is constantly confused between the vision conjured by the music, and the palpable scene upon the stage. It has this further absurdity, that, whereas music in the opera requires a story rather fanciful and possible than probable, in order to marshal its own imagery effectively, yet the modern Italian school tends to select characters and situations which already have a cold and precise form in imagination, and therefore produces a grotesque result. To our fancy, the libretto of an opera, like the words of a song to be set to music, should be like the canvas upon which colors are to be laid. If the canvas has a character of its own, which insists upon asserting itself, the result is confused. A song which is perfect as a poem, cannot be improved by music. To set it to music is only to write it double. Tennyson's "Bugle Song" contains its own music, as well as its own sentiment: nor does Haydn's Canzonet, "She never told her Love," give any newer meaning or interest to Shakspeare's lines. The music is truly beautiful, but the effect of the two is not harmonious in the sense of producing a single impression, stronger from the strength of the parts, but is rather that of smelling two flowers at the same time, each of exquisite fragrance. So in an opera the interest should constantly reside in the music, which is quite dramatic enough for its purpose.

There is much complaint of the libretto of Don Giovanni, and eloquent grievance is wasted upon the fact, that such divine melodies are associated with nothing better than the life of a libertine. But the rigid reality of a personal life is, happily, entirely destroyed to the imagination in this opera, by the introduction of the supernatural element. If the scene represented only a gay Spanish Hidalgo and his sins, it might indeed not seem worth while; but the listener instinctively feels that in a realm where statues talk in grave-yards by moonlight, and come to the suppers of cavaliers, there, indeed, are new laws of life—there, it may not be so strange that the men and women—as upon some Mediterranean shore of Syrens—do discourse "divine, enchanting ravishment." And, after the music, it is just in this fact,

that the supernatural character of the plot emancipates the imagination from the ruts of historic experience, and allows it to revel in those aerial pastures of fairy opera, which, in music, it demands.

It is somewhat with this opera as with Charles Lamb's remark upon the dramas of Congreve and Wycherly, that their life is "beyond the domain of conscience." The realm of Don Giovanni, and, as we think, of all true opera, lies, in the same way, beyond reality. This probably arises from the inherent necessity of each art to be sufficient to itself. Sculpture asks nothing of painting, nor painting of any other art, for its genuine success. If you paint a statue, you destroy that sense of unity which is essential to great delight in a work of art. And if the Greeks did it, it is no less true. Sculpture is an art of form. Color is renounced by the very nature of the case—as much as actual solidity of form is renounced in a picture. The tendency of this theory, of course, is to the unmixed expression of every art, and, if we are not much mistaken, this is the tendency of cultivation and experience. There is an unquestionable satisfaction to some minds in the gilded rays with which the heads of Fra Angelico's Madonnas are haloed, and in the tinted drapery of Gibson's statue of Victoria. But this is rather a tickling of sense than the thoughtful appreciation of a fine work. The eye that truly sees the heavenly sweetness of the Fra's Madonna, knows how superfluous is the gilding.

Why should it not be so in music? It is not to be denied that the ballads sung at twilight in homes all over the world have an irresistible charm. But it is as much the pensive sentiment of the words as the significance of the music, which produces the effect. It is the father, perhaps, who listens to his daughter singing. The air is plaintive, the words an airy nothing of sadness, and the parent sinks deeper and farther in tranquil reveries of the days departed. If the air be well adapted to the words, it matters little to the effect, whether the one or the other continue. Either one will continue the spell. Such facts as these are not to be omitted, certainly not denied. But in respect of the highest enjoyment and significance of music they are not more than a lover's delight in the portrait of his mistress, in regard to the pure influence of painting. It is the peculiar drop of enjoyment to the individual, not the elevating grandeur of the art, and may be likened to the pleasure a man derives from the contemplation of a certain scene or flower which recalls, with pensive persuasion, days and friends departed, whereas the large and impersonal lessons of nature

must be still held superior to that private delight. Yet no man of heart and experience will slight this collateral enjoyment in the ministries of art. Because it may be the ideal aim of painting to manifest an unrevealed beauty which shall stimulate all men to a truer devotion to lofty effort, he will not scorn the tender personal appeal of the picture. Because to the eye and heart of the world the Doge's portrait imports the mystery and magnificence of Venice, no just man will chafe at the tears of some forlorn descendant of the Doge's who beholds in that portrait the prime of his family and knows it forever past. Nor, while he knows that it is not the high success of music to beget a luxury of sadness, will he be impatient of the twilight reverie which sweet singing induces, and through which the forms of earlier experience pass, admonishing.

All that we mean to assert is, that this enjoyment is only collateral,—is like the family's delight in a portrait, depending mainly upon the fidelity of the likeness, and not upon the essential significance of the picture, and which would be precisely as great in an accurate daguerreotype. But we claim for music, as for all art, and more especially for music because it is so often considered as a mere amusement, the very highest moral character and influence. Its profoundest appeal is to the religious sentiment, to that instinct of universal love which is the beatitude of the soul. Thoughtless people are wont to say of a proselyte to the Roman Catholic Church, "Oh, yes, it is a sentimental surrender to music and incense, and the senses in general." But the true reason is that piety finds in that pompous ritual the most satisfactory expression of devotion. In the ecstasy of religious emotion the soul rises in song. Music is its most adequate prayer of faith, and hymn of hope. It purifies the mind, it excludes the world, it binds Satan in celestial chains; and, however mean and poor the agents, however unworthy the occasion, yet the music speaks to the worshipper of the great truth which is theoretically embodied in the service. The use of this art is not confined to the Roman Church. But in this, as in other departments, that Church has shown itself catholic by recognizing the complex nature of man; by perceiving that, placed in a world with which he converses by means of his senses, it is the part of that wisdom which seeks to arrest his attention and stimulate his heroism, to appeal to him through the channels that God has appointed for his instruction. Cast in a gorgeous

world, with faculties sensitive to every sound and color, with a heart that

> "leaps up when I behold
> A rainbow in the sky"—

his highest training only requires a wise use of this condition, a religious appreciation of these marvellous opportunities. Made as we are, and so situated in such a world, cynicism and Quakerism in every degree are the most monstrous forms of infidelity. When every day rises in unimagined glory from the sea, and the long procession of the year in shifting splendor passes, how miserable the spiritual superciliousness that condemns a picture. When the glad morning gurgles with the song of birds, and the wind-touched landscape thrills into murmurs, and yields its soul in perfume—the silent music of the flowers—how bald the absurdity that song is sin! Let no man for a moment distrust these influences, nor tremble if he find himself more chastened by the psalm than the sermon. The great feelings, the holiest thoughts condescend but imperfectly to words. The melody of poetry is more subtle than the meaning of the verses. The tones of a man's voice, the lines of his face, the movement of his person, are surer keys of the man than the choicest phrases he uses.

So deeply grounded is art in its noblest acceptation. Upon this divine instinct its various forms are reared. But every form, whether painting, sculpture, music, or poetry, aims at the expression, according to its kind, of the same truth. That truth is perceived, but is impalpable. Every aspect of nature, as well as every effort of art, implies and suggests it. The mind, aware of its presence, aims to realize it, and sings with the poet—

> "Ah, then, if mine had been the Painter's hand,
> To express what then I saw, and add the gleam,
> The light that never was on sea or land,
> The consecration and the poet's dream."

And, therefore, is art as immortal as nature. We ask, with apprehension, did not sculpture die with Greece? Is not politics more the sphere of modern genius than art? Would not Webster have been a sculptor had he lived in Athens? May we dare hope for music in America?

Quite as confidently as that the sun will rise to-morrow. Why do we go to concerts?—why have we an opera? Because it is the

fashion, you say. But why is it the fashion, except that it answers, however imperfectly and vaguely, a want of our nature? Fashion is only the grotesque exaggeration of a genuine feeling. The absurdities of tailoring originate in the desire to make a man appear, by an adroit arrangement of his clothes, to be that Athlete and Apollo which is his physical ideal. When Count d'Orsay turned up his wristbands, and Lord Byron turned down his shirt-collar, swarms of young men turned themselves up and down accordingly. It was the fashion;—but why was it the fashion, and who made it so, and why could no one of the swarms of young men have made it so? Certainly, if what we have already said be true, no country was ever richer in developments of art than ours will be,—but in what kind, at what time, and all other details, it is useless and hopeless to consider. To say, "Go to! let us make an American art," will not probably accomplish the object any more than the same cry has achieved an American literature. Both must naturally arise out of the national development. The wise critics moan over the imperfect Keats and crude Tennysons, which they find the young American poets to be, and are ready to despair because weak youths are sentimental. But nature is justified of her children. If there is to be a new civilization upon this continent, there will be art, from the same irresistible necessity that makes a poem wherever there is a poet.

The prospects and conditions of American painting were discussed in our last number. Those of American music are more difficult to define. National music we have none. The Negro melodies have a plaintive sweetness which is not destroyed by the ludicrousness of the words. But these songs are in no sense American. So far as they have any relation to us at all, it is the disagreeable one of a mournful protest. Their sadness has an unflattering significance. They are the songs of an exiled race, who in no manner share the spirit and hope of the country in which they live. They are not, indeed, destitute of the suggestion of the mournful monotony of a certain landscape, not infrequent at the South. How far, however, national songs are related to national character and scenery, is by no means determined. It is not difficult in the wild, minor Norwegian melodies to trace the cool sobriety of the people, and that vague, strong sadness and solitariness which belong to the northern landscape, and which Landseer has so admirably rendered in his picture of the Reindeer at twilight upon the verge of the lonely river, with the low snowy mountains beyond. The same sentiment is constantly evident in the

music of Ole Bull, and in the Herdsman's and Mountaineer's songs sung by Jenny Lind. Nor in the barcaroles and operatic melodies of Italy can the listener fail to feel the gushing passion of the southern character, and the luxuriance of its landscape, while in the unmelodious noise of Eastern instruments, and the monotonous and extremely limited rhythm of its song, the last stage of decay in the race and the apathy of the landscape are also evident.

Our musical sensitiveness is very great, although we have scarcely any musical education. No traditions record more imperial progresses than the first career of Ole Bull, and the recent triumph of Jenny Lind, in America. The reasons of success are always much mixed, and we do not altogether ascribe the unflagging triumph of Jenny Lind to the intrinsic love of music in the American people. But surely this had much to do with it. We are an ardent and enthusiastic people, but so self-conscious that we blush at our enthusiasm. Young men, meeting upon a Newport piazza by moonlight in summer, we have heard break into beautiful singing, worthy the spot and those who listened at the windows above, but false shame followed upon genuine sentiment, and with silly hootings and yelpings hunted it to death. This is the miserable cowardice that infects much of our action. In this lies the germ of that lofty superiority assumed among us by the practical men, and which only exposes them to the contempt of gravity and wisdom. Art is born of enthusiasm, artists are enthusiasts, and genius is fanatical. If it were not so, in this world of alluring persuasions, few great works would be achieved. Genius would see the statue in the block, but would not lay its hand to, and chisel away the obstructing marble.

If we have hope, then, as well as desire, for the advancement of art, we shall not forget what we have rapidly seen, that it is grounded as deeply as nature, that it aims to manifest in various forms the sublimest visions of the soul, that it converses with the immortal and not with the perishable, and is therefore of the supremest practical importance; that it is the ceaseless ministry of the loftiest influence, and that no infidelity is so appalling as the theory that it is amusement —the matter of a leisure hour—a dream, a reverie, a luxury. The gloomy Beethoven, shrouded in a melancholy malady from all the charm of human society, grappling alone, in silence, with the profound mysteries of life, and hurling at the world the wild and wonderful results, is no purveyor of comfits for sentimentality. The austere harmonies of the elder Italians, in which the religious feeling of a world was ex-

pressed—the thousand melodies everywhere in all times to which men have as bravely marched, in their manhood, to die, as, in their childhood, they fell asleep beneath their spell, —these are no matter of amusement merely, but are inextricably interwoven with the mystery of the world. We have but urged the reader to refresh his faith, and to remember how constant is the necessity of asserting, as well as of believing, that the things which are not seen are eternal.

WRITINGS OF MRS. EASTLAKE.

1. *Letters from the Shores of the Baltic.* London: John Murray.
2. *Livonian Tales.* New-York: Harper and Brothers.
3. *The Initials: A Story of Modern Life.* Philadelphia: Lippincott and Grambo.

Almost every town in England has either its attractive literary memoirs or existent *coteries*, that endear the past or animate the present current of its life; and the stranger alive to such influences, who visits Norwich, after viewing her nine iron bridges, the ancient keep of her Saxon castle, and the fine architecture of her beautiful Norman cathedral, unless his taste is utilitarian enough to revel in the wonders of manufacturing establishments, will probably revert, with delight, to the fact that he is in the town where Sir Thomas Browne so long practised medicine and wrote philosophy; and where, in our times, the erudite and ingenious Taylor composed his thoughtful works. He will scarcely, however, call to mind another literary benefactor in an humbler sphere, also a native of Norwich, and whose claims to such a grateful reminiscence we desire to make evident.

Not many years since there dwelt in this ancient town a widowed lady by the name of Rigby, with three highly educated daughters, who enjoyed the constant society of Miss Austen and other of the gifted denizens of the place. The family visited Germany, and, enchanted with the beauties of Heidelberg, and finding the romantic locality a comparatively inexpensive abode, suited to their limited income, adopted it as a residence for several years. The advantage to such minds

of vicinity to the lovely Neckar, and the glorious view obtainable from the noble bridge which spans its waters, is obvious; and we can imagine the intelligent sympathy that inspired their rambles about the base of the Königstuht, and their intercourse with the cultivated society of which a venerable University is always the nucleus. Among the students then at Heidelberg was a Russian nobleman, who became attached to one of the young English ladies, and subsequently married and conveyed her to his estate in the heart of Estonia. To this circumstance we are probably indebted for the authorship of one of the other sisters. After a long separation, prompted by the most devoted affection, she traversed the vast and lonely snow-plains, in early winter, with no companion but an attendant, to seek out and visit the Russian's wife. The description of this journey and sojourn constitute "Letters from the Baltic," the first of Miss Rigby's publications; which was soon followed by "Livonian Tales," derived from the same region; and, still later, by that admirable result both of her acute observation, practice in writing and mature sentiment, the charming novel entitled "The Initials." These preliminary facts explain, in a degree, the merits of our authoress. Her early association with a circle remarkable for good sense as well as refined taste—a habit she acquired when quite young, of sketching from nature, and the removal to a new country, at a period when both mind and heart were keenly alive to every great experience,—all tended to discipline her powers both of thought and expression, and give them healthful and vigorous development. Within a few years she has become the wife of Eastlake the painter.

"Letters from the Baltic" are spirited, highly intelligent and graphic. The vivid alternation from winter to spring, the isolation, monotony and "still pulse of nature" characteristic of the north; sledge-driving, thaws, the peasantry, housewifery, styles of building, the conduct and economy of human life thus remote and environed by snow-plains, are described with vigor, authenticity, and a masculine attention to essential facts, which give the book a positive value; while playfulness, an occasional vein of sentiment and moralizing, with the overflow of animal spirits or the indulgence of reverie, soften and animate the matter-of-fact details of customs and scenery. Twenty etchings, from drawings by the author, illustrate some of the objects which her pen so faithfully delineates. There is a basis of good sense and a tone of good feeling throughout which renders the information thus carefully given always

pleasant, and sometimes delightful. We have seldom perused a record of travel so devoid of exaggeration, so unpretending, and, at the same time, so vivacious and reliable. We glean a few expressions and thoughts, not only to indicate the style in its serious range, but as characteristic of the writer's mind, which can expatiate most fancifully over a dream inspired by a gnat-bite, yield picturesque imagery without stint, and reflect, with genuine sentiment, on the phases of life, and the mysteries of the soul:

"That portion of character which each individual first brings to market is his taste;—it matters not whether in dress, manners, or conversation; and any uncalled-for exhibition of the deeper and more sacred parts of a character, at this stage of acquaintance, is as much at variance with the rules of taste as the grossest neglect of conventional courtesy would be on the other hand." In an hour of danger at sea, she speaks of "the tacit freemasonry of anxiety;" and says, "Our hearts were sick with the excessive tension which weighed the over-laden minutes." She describes the roused ocean around her as a "liquid wall of the most exquisite marine colors, but cemented with crests of angry foam which bound in our horizon to a narrow span." "There is something very pleasant in entering a perfectly new place where you neither take nor leave a character." "In these travelling times an inherent talent for sight-seeing is a blessing not sufficiently to be prized, one equally commendable in its exercise as in its reward."

"What a world of boundless novelty opens on the individual who finds himself suddenly thrown into the innermost home-life of a strange people! In general, the traveller is left, and most guilty so, to wear his way gradually into the privacy of other nations, and by the time he has attained some knowledge of their habits, has somewhat blunted the edge of his own."

"Educated persons excel in the meanest things, and refined minds possess the most common sense." "Perfect happiness and comfort may be found in a remote country-house on a remote shore of the Baltic, where, to all intents and purposes, the capital exists not, nor scarcely the world beyond the white line or dark forest which bounds the horizon." "Happiness lies in the long-established possession of habits of rational occupation." "Those who rail at poetry and refinements as superfluous ingredients in every-day happiness, little know what main props they would undermine. These will abide when principles waver; these open the heart and close the lips instinctively at the right time; these prevent when all the good institutions in the world could not remedy." "Manly delicacy is as necessary in family life as manly rectitude, and womanly tact as womanly virtue." "Beauty, as a manifestation of the Infinite, has at all times a subduing influence over the soul." "After you have gazed your fill—after having drunk deep of the beauties of earth and sky—how sweeter far it is to turn to a countenance whose features never pale, and whose loveliness knows no winter—to eyes by turns soft with emotion, or brilliant with intellect, where the deepest shade of sorrow is ever cheered by a gleam of playfulness, and the brightest mood of merriment chastened by a shade of sentiment; and which now turn, as if spell-bound, to claim and render back those speechless looks of affection for which Nature's richest array has no equivalent!"

"Russia is the country (now) where the learned man wastes his time, the patriot breaks his heart, and the rogue prospers."

The "Livonian Tales," besides their narrative interest, are so full of authentic information and significant illustrations of life in Russia, that they deserve, in their more humble scope of observation, to rank with Wilson's Lights and Shadows,

and Balzac's *Scenes de la Vil de Province;* for they embody local and characteristic facts of a more simple nature, indeed, but after the same authentic and interesting method. Though few in number, and written in an unaffected and direct style, they convey clear and impressive ideas of Livonian peasant-life, and seem, as it were, preparatory studies for the author's most genial and elaborate work, to which we now invite attention.

"Who wrote 'The Initials'?" was long a vexed question. A woman, we were confident; for, to say nothing of the little details of costume and housekeeping which eyes masculine would but imperfectly discern;—the clever repartees, girlish talk, and very natural scenes betray the quick apprehension of a female; while one not personally conscious of womanly instincts could not possibly have drawn so genuine a character as that of Hildegarde. Beyond this item of sex we long sought, in vain, for information respecting the anonymous writer. But that she had been a traveller it needed not "Letters from the Baltic" to assure us; for every page of "The Initials" bears testimony to a most observant visit to, and domestication in, Germany. But why, it may be asked, was the authorship of this book a question of more interest than that of any other fiction of the day? We answer, because it bears traces of a return to nature, a true insight into character, and a superiority to the theatrical devices so much in vogue in this department of literature. What the ballad, the epic, the drama have been to former ages, the novel is to this; and we therefore hold it a special and almost sacred duty, to hail any sign of promise, artistic or moral, that appears in the wide and influential domain of novel-writing.

Accordingly, we welcome "The Initials" as a new study of character, a fine local picture, and an unaffected, true and spirited story of modern life. It derives its name from the fact of a billet signed by the initials *A. Z.*, having led to the incidents described. The motto suggests, at once, that instead of using romance as a clue to the development of sentiment, the idea of the author is to have recourse to common sense and nature. Herein consists the originality of the design:

> "To know
> That which before us lies in daily life
> Is the prime wisdom; what is more, is fume
> Or emptiness, or fond impertinence;
> And renders us in things that most concern us,
> Unpractised, unprepared."

The great merit of "The Initials" is its naturalness. The plot is devoid of all complexity; and scarcely a wonderful incident is recorded. A young Englishman visits Germany, accidentally encounters a family of the middle class, lodges in their house at Munich, studies the language, and, after two years' absence, returns home. Such an experience is of frequent occurrence, and evidently can yield but a slender basis for romance or characterization. It is true, one or two events, a little out of the common order, take place at long intervals, but even they are of a kind that fall within the range of ordinary life. The absentee is thrown from his horse and dangerously injured; he also loses himself among the mountains during a chamois hunt; his sledge is upset in a snow-drift, and he saves one of the young children of his hostess from drowning. But these incidents, to use a mercantile phrase, are not made capital of to the extent a lover of the marvellous desires. Their consequences and influence are not in the least exaggerated, and they appear to be introduced because they occurred and belong to the narrative, rather than with any view to effect. Indeed, the only chapter of "The Initials" which savors of the melo-dramatic, or is at all indebted to the machinery of the novelist, for its interest, is that entitled the masquerade; and the only character that reminds us of the intense school, as it has been called, is Cornet Raimond, who is but an episodical personage, and might easily be omitted altogether without any serious detriment to the story. With this exception, a remarkable adherence to the familiar, every-day, and natural course of things, is preserved; and the thread of circumstances upon which the pearls of character are strung, is such as interlaces the world everywhere and always. There is something very refreshing in this reliance upon the familiar which is characteristic of true genius. It also teaches a sublime lesson—that ordinary life and daily experience are prolific of interest to those who have the spiritual perception to discern, the geniality to enjoy, and the philosophy to interpret them. Such a writer makes us see life as Wordsworth does nature, detecting significance in the habitual, and a charm in the social phases of existence unappreciated before. We feel, as we read, how needless it is to invent the wonderful, to tax credulity, or to ransack history for subjects; when around us all is enacting a drama which constantly proves that "truth is stranger than fiction."

This complete avoidance of the extravagant is, however, but a negative merit of "The Initials." It deals artistically

with the simple elements of common life, and depicts both homely objects and natural scenery with a Flemish truth. So consistently is this done throughout that we are confident, in these respects, it is a work drawn from personal observation; and accordingly a reliable picture of German life, particularly of the middle class—the best, indeed, according to good testimony, yet achieved in English. Following her young Englishman into the dwelling of this respectable, friendly and industrious family, we are present with him at their meals, lessons, sports, tea-parties, excursions, fire-side converse, and church-goings; nay, we are admitted into the bedrooms and kitchen, become well acquainted with the servants and visitors, share the domestic economy, witness the disputes of the little boys, oversee the baking and brewing of the girls, and hear their mother's bunch of keys jingle at her girdle. The stove, the window, the dishes, the books, toys, dress, and balls of yarn, almost the atmosphere of the house, become so familiar that we feel at home among them, as if we had been accustomed to contemplate them for years in some *capo d'opera* of the Dutch school, hanging over our library fireplace. And what gives to this authentic still-life an air of more vivid reality is the faithful picture of German customs, with which it is skilfully interwoven. The kinds of food and the method of preparing and serving it up, the ceremonies of a betrothal;—a Fair, a Christmas tree, a burial, a public ball, a sleigh-ride, an iron foundry, a brewery,—all that is characteristic and peculiar in the amusement and home-existence as well as the pursuits of the class described, is so fully and clearly noted, that no small degree of positive information is conveyed in what may be called the incidental trimming.

The scenery, legends, and transcendental aptitudes of Germany and the political excitement there prevalent at the epoch of the tale, would have afforded an ordinary novelist more available expedients and materials wherewith to construct a story. But the author, in the spirit of Defoe, is contented to seize upon the actual, to delineate the permanent, and to find in that "which before us lies in daily life, the prime wisdom." Accordingly the intricacies of the Spanish, the high-wrought sentimentalism of the French, and the explicit morality of the English would here be ignored; and we have details such as would fill the letters of an intelligent absentee to his friends, details interesting to the foreign reader from their novelty and attractive form, the truthfulness and spirit with which they are given.

But the graphic and natural traits of "The Initials" are not its prime distinction. It is essentially a novel of character, and the interest centres upon and is coalesced from the fine and true development of the chief actors in the drama. The good-humored and material Major Stultz, with his whist, his punch, and his snoring; the flirting Madame Berger, the poor tutor, Biedeman, Hans, the old servant, A. Z., and her jovial lord, together with the father, mother, obstreperous brothers and artless, kindly sentimental sister of her heroine, are generic characters, types of a universal species modified by local influences; and, while exhibiting no rare or impulsive qualities, claim the praise of singular truth to nature, and attract a certain sympathy by virtue of their thoroughly humane attributes. There are several subordinate characters not sufficiently original in themselves or important to the narrative to excite more than incidental interest. It may be said of them, however, with the exception of the suicide of Raimond, that their slight agency harmonizes with the general effect, and tends to give a desirable variety to the scenes. Veritable glimpses of German life and economy, habits and character are thus yielded us, and we seem to breathe the domestic atmosphere of the land as we read "The Initials."

The cleverness of the author is manifest in all these respects, but her genius is shown in the colloquies, the audible musings, and the behavior of the principal characters. A keen observation, a thoroughly womanly insight, and a singularly intelligent sympathy is betrayed in these descriptions. No direct attempt at metaphysical writing is evident, and yet the philosophy of character is always suggested. There are no elaborate confessions, no anatomizing of the heart, no highly-colored pictures of impassioned sentiment; the parties conduct themselves, for the most part, as the educated youth of this century are wont to do; but so skilfully is the dialogue wrought, and the inward state of the interlocutors hinted, that few romances give us a more solid conviction of the existence of the mutual sentiment they aim to portray. Indeed, what we cordially admire in "The Initials," is its beautiful tone: no morbid self-inspection, no absurd knight-errantry, no short-lived romancing feeling is delineated in the lovers; but a brave, intelligent, vital communion, a sharp elemental action and reaction of heart and mind, a fresh and proud, sometimes sportive, and at others belligerent, yet latently earnest contact and intercourse, such as quickens and elevates into noble issues the youthful gems of character. In this manner, to our thinking, there is

indirectly made out a more beautiful vindication of the sentiment than is ever realized by the most successful votaries of the poetic school; especially is woman in her phase of heroine nobly illustrated, her office as the inspiration instead of the toy of the other sex, truly set forth, and a certain intellectual dignity and genuine moral significance, with but the slightest cant or pretension, legitimately associated with the origin, growth, and consummation of the tender passion. Herein we conceive our author has done no inconsiderable service to good taste in moral writing. She has sought and found the relation of love to character, of natural affinity to moral development. Hamilton, the hero of "The Initials"—if such a term may be applied to one whose career was marked by no very wonderful exploits or hair-breadth escapes—is just such a young man as emerge by scores every year from the prosperous homes of England and sojourn a few months on the continent, to see foreign life, acquire foreign tongues, and return to their families to settle down into "fine old English gentlemen," after a life divided between a parliamentary career, the oversight of an estate, and an occasional hunting, attendance at the race-course, and perusal of the Reviews. Robust, educated, honorable are they;—fine specimens of physical well-being and courtesy, patriotism and hospitality; yet seldom offering any salient points of character; without aspiration, limited in sympathy, and respresenting mainly the idea of utilitarian egotism. Hamilton was very good-looking, an excellent horseman, not ignorant of the classics, kindly in disposition, with native energy both of intellect and will, somewhat conceited, yet withal a pleasant fellow. Such English youth are met continually on their travels. The substance of their characters—the glorious Anglo-Saxon distinction, is, however, a thorough manliness—overlaid, it may be, by coxcombry, the love of pleasure, or some other superficial attribute; but capable, under the right kind of excitement, of asserting itself, and becoming the source of unimagined traits—noble, pure and graceful. In his half-developed, experimental state, unfledged, not in earnest about any thing in particular, but with fine natural abilities of all kinds, Hamilton encountered Hildegarde;—also in embryo as regards character, but, according to the natural law, more of a woman even then than he was a man; and through the occult action of an absolute sympathy veiled in great external differences, the two were ordained to act and react upon each other;—he to subdue and harmonize a rich but impetuous soul by virtue

of manly wisdom, and she, to use a common but expressive phrase, to "take the conceit out of him," by her self-control and disinterestedness, and to give earnestness to the diffusion and aimless tone of his nature; all this being the result of love, which acts upon character like heat upon invisible ink, bringing out the latent inscriptions of the soul.

But the great charm of "The Initials" is the heroine, although the designation hardly applies to one so superior to the average of the species thus called, both in harmony of character and naturalness of behavior. Without any labored description of her personal graces, with few dramatic situations, and actually no attempt to convey the idea of moral perfection, Hildegarde is so described as gradually to interest, and thoroughly win our sympathies, while the creation is so real and in unity with itself as to convince us that it is drawn absolutely from a living original. Perhaps there is no attraction in character like the union of sensibility and self-control, passion and will, impulse and thoughtfulness. The alternation of these opposite elements is certain to involve great results. The struggle between them; the nobleness often induced by their joint action; the sudden changes, fitful moods, and high resolves,—the magnanimity, the energy, and versatile development incident to such characters, alone render them impressive. Hildegarde, with her sudden violence of temper, her quick intelligence, her sensitive pride;—her capacity of deep emotion and power of concealing it;—her generous yet proud, and affectionate yet independent nature, moves before us—one moment in the patient exercise of household duties, and the next in the excitement of baffled feeling; now absorbed in a book with all the intensity of mental sympathy, and now playfully engaged in an argument; one moment scornfully repudiating Hamilton's advice, and the next meekly confessing her faults to him, always the impersonation of talent, will, and passion; her expressive eye, her quickly-changing hue, her vigorous gesture and winsome form—a kind of domesticated Hermione, a softened Beatrice. "Inexplicable girl!" was her lover's usual exclamation after one of their brisk encounters of wit or half-uttered sympathies; but to the reader who looks upon Hildegarde objectively, and is not blinded by the self-love of her English admirer, there is entire consistency in her behavior. With all her faults, she has that key-stone in her arch of character—truth, and that only appears inharmonious when viewed in a conventional light. Very early she felt the need of that holy fear, the sentiment of reverence

towards the object of her affection, which is one of the highest of womanly instincts. There was a certain elevation, derived from blood and culture, in Hamilton, which met this want; but withal he had a coxcombical taint, he had not learned the dignity of love; he mingled the gratification of vanity with a true feeling for the sex. Hildegarde, on the contrary, had more pride than vanity—very little indeed of the latter demeaning quality; and she cherished a high and pure ideal of love. Accordingly, while drawn towards Hamilton by his manly qualities, his kindness, and his cultivation, her self-respect made her recoil from his attempts to experiment on her feelings, to awaken her jealousy, and measure the extent of his personal influence. These tricks were unworthy of him and of her. The moment he acted with thorough candor and in good faith; whenever he was direct, honest, and in earnest, he was met in the same spirit. The woman always responded to the man, but the proud and self-willed girl to the coxcomb. From the first they instinctively recognized peers in each other. They had a natural affinity; and it was because she felt this that she instantly took refuge in pride, when by his manner, talk, or look, Hamilton betrayed a want of recognition of her sentiment. In a word, she would not be piqued, melted, frightened, or cajoled into any expression of her feelings; she kept them sacred in the holy shrine of her heart, and only revealed them to sincere and earnest invocation. Thus viewed, there is no inconsistency in Hildegarde. She is not described as a goddess, but a bright, aspiring, impetuous, yet true-hearted girl. It was, therefore, perfectly natural for her to box the ears of Hamilton, and, on the same evening, ask him to be her Mentor. She respected his intelligence, she had faith in his honor, but she was indignant at his suspicions and presumption. He was long in finding out that love in a woman of character is quite another thing from love in one without. He was, indeed, held to Hildegarde, and irresistibly led to sacrifice his wordly prospects, and be true to his better instincts, through this love, because he felt that she understood him; that no blind devotion, no romantic passion, but a self-possessed, intelligent, noble sympathy bound them each to each. She was to him the only companion he had found in her sex where dominion was uniform and satisfactory; to whom he could utter his thought, sure of its being received, whose tone of mind and feeling assimilated with his own, and who always dared to tell him the truth. These were moral bonds that hallowed her personal charms.

Whether in the absence of that eye so "darkly, deeply, beautifully blue," and of that hair "brown in the shadow and gold in the sun"—of that air, and form, and smile and voice,—in short, of the magnetism of her beauty, we should find the blunt, independent, frank and impetuous traits of Hildegarde quite so captivating, is a question we have not the philosophy to answer; and this only proves the merit we claim for the character, as it shows that the elements of worth and faultiness, of grace and error, are so admirably mingled as to produce a result which is too charming and too natural to bear analysis.

The indirect exhibition of Hamilton's worth is also in the highest style both of taste and art. Always the gentleman, delicate and honorable- The thorough self-respect in his chararacter that makes the second thought invariably bring him right after every ebullition of temper or indulgence of vanity, causing him to refrain from claiming the von before his name and inducing magnanimity to take the place of passion, with the purity of his tastes and habits, make us yield him that spontaneous confidence, which is the noblest and most endearing of social ties, and the happiest foundation for enduring love.

The traits we have suggested are vividly brought out in the twenty-ninth chapter, for instance, where a natural, yet true picture is given of the deepest love, controlled by the noblest self-command:

CHAPTER XXXIX.

THE RECALL.

About a fortnight after the foregoing events, as Hamilton was one morning sitting listlessly in the arbor at the end of the garden, Hildegarde came towards him carrying a large packet of letters, which Hans had just brought from Munich. As she placed herself beside him he looked at the different handwritings, and murmured, "My sister Helen—my father—John, and—from uncle Jack, too! With what different feelings should I have received these letters a short time ago!—Don't go away, Hildegarde; I have no intention of making you any reproaches or speeches, and I may, perhaps, want your advice about fixing the day of my departure."

She sat down on the steps leading into the arbor, leaned her elbow on her knee and her head in her hands, and remained perfectly immovable for more than half an hour. She was not musing on the past, or thinking of the future; she heard her heart beat distinctly, and would, perhaps, have endeavored to count its throbs had she not felt irresistibly compelled to listen to a most inharmonious and lamentable ditty sung by the cook, as she scoured her kitchen furniture near an open window. Some vague ideas of the happiness of those whose thoughts never soar beyond the polishing of pots and pans, or the concocting of meats within them, floated through her mind; and then appeared a vision of a nunnery garden, with very green grass and long gravel walks; and then Hamilton rustled the

paper of his letters, and she expected him to speak, and when he did not she again listened to the monotonous song, and wondered if it had no end.

The song continued, but she ceased to hear it, for Hamilton spoke at length, and she turned round to answer him.

"These letters contain the recall I have been expecting," he said, folding them up, "and also a large sum of money for my journey, more, much more than I shall require; my uncle measures my expenses by my brother's. In short, neither he nor any of my family have in the least degree comprehended my position here—their ignorance would shock you——" He stopped, evidently embarrassed. His uncle's letter would, indeed, have shocked her; he had offered to send Hamilton any sum of money necessary to buy off the claims which Hildegarde or her family might have upon him.

"I suppose," said Hildegarde, "they expect you home directly."

"They rather wish me to visit the Z.s, as they have become acquainted lately with some of their connections."

"And you intend to do so?"

"Yes, I have no particular wish to return home directly, though I see they expect me in about a fortnight or three weeks."

"In that case you will have to leave us soon—very soon."

"How soon?" asked Hamilton, endeavoring to catch a glimpse of her face, which was, perhaps, purposely averted.

"You are the best judge of that," she answered, rising from her lowly seat; "if leaving us be disagreeable to you, the sooner you get over it the better."

"It is more than disagreeable—it is painful to me." He paused, and then added, hastily, "I shall take your advice and leave to-morrow." More than a minute he waited for her to speak again; one word or one look might at that moment have changed all his plans, but finding that she remained silent, he slowly gathered up his letters and walked thoughtfully into the house.

Madame Rosenberg talked more than enough; she thought it necessary to put the whole house in commotion, and was so anxious to prove to him that all his clothes were in order, that she followed him to his room, and actually herself packed all his portmanteaux and cases; she then seated herself on one of the former, and began to question him about what he intended to do with Hans, the horses, and phaeton.

"I shall take Hans to England with me, and leave the horses at Munich to be sold. I dare say Stultz will take the trouble of looking after them for me."

"Dear me, how surprised he will be—and Crescenz—and Lina Berger. Really, the whole thing is so unexpected, that one has not time to think, or feel, or understand——"

"That is just what I wished," said Hamilton; "I hope not to have time to think or feel, for I leave your house most unwillingly, but leave it I must, as my father and uncle expect me home in a week or two, and I am going first to the Z.s."

"Pray give the baroness my compliments," said Madame Rosenberg; "it was very civil of her taking the children home—that evening, you know."

Hamilton remembered the evening, but he thought it was very probable he should forget the compliments.

"Sorry as I am to lose you," continued Madame Rosenberg, "I must say I think your relations are right to insist on your return; as my father said yesterday, a young man with your capabilities being allowed to waste your time as you have been doing, is perfectly incomprehensible."

"My object was to learn German, and I have learned it," said Hamilton.

"It would have been better for you if Hildegarde and Crescenz had not spoken French so well. My father says, too, you speak English now with Hildegarde; I'm sure I don't know how she learned it. *I* never could learn French, though I have often tried, and I am not a stupid person in other things. I'm very glad, however, that she has learned English, though I formerly thought it unnecessary. Four languages for a girl not yet eighteen is pretty well, as poor dear Franz used to say, and——"

"Four languages," repeated Hamilton; "what is the fourth?"

"Why, do you not know that she speaks and writes Italian quite as well as French? Mademoiselle Hortense is a half Italian, and she spared no pains in teaching her, most fortunately as it had turned out, for the lady with whom she is likely to be placed particularly requires Italian, as she is going to Italy next year."

"So Hildegarde is to leave you also?"

"Yes. I was at first very unwilling, and, indeed, should not have consented were I still in Munich, but, you see, here she is never likely to marry, and after her sister has made such an excellent match, she would not be satisfied with our förster, Mr. Weidmann, I am afraid."

"I should think not," said Hamilton."

"Now as she is certainly remarkably handsome," continued Madame Rosenberg, "and within the last year greatly improved, too, I should not at all wonder if at Frankfort or Florence she were to pick up some one——"

"Not at all unlikely," observed Hamilton.

"Or if old Count Zedwitz were to die, perhaps his son might again——"

Hamilton began to stride up and down the room with unequivocal signs of irritation.

"I see all this is uninteresting to you," said Madame Rosenberg, placing her hands on her knees, to assist her in rising from her low, unsteady seat. "How can I expect you to care who she marries or where she goes, or, indeed, what becomes of any of us now? In a few weeks you will have forgotten us altogether!"

"How little you know me!" cried Hamilton, taking her hand as she was passing him; "I shall never forget you, or the happy days passed in your house, and am so sincerely attached to you and all your family, that nothing will give me greater pleasure than hearing of or from you. I shall leave you my address in London, and hope that you, and your father, and the children will often write to me. When Fritz comes home for the holidays I shall expect a long letter, not written from a copy, and in his best handwriting, but unrestrained, and telling me everything about you all."

"Well, I really believe you do like us," cried Madame Rosenberg, the tears starting to her eyes; "but after all, not as well as we like you; and now I think I had better leave you, or else I shall make an old fool of myself."

Hamilton's hours that day were winged; they flew past uneasily, like birds before an approaching storm. The afternoon, evening, and night came; Mr. Eisenmann dozed, Madame Rosenberg inspected her sleeping children, and Hildegarde and Hamilton for the first time sat gravely and silently beside each other; neither of them had courage to attempt the mockery of unconcerned conversation; each equally feared a betrayal of weakness, and it was a relief to both when the time for moving arrived. Mr. Eisenmann retired quietly to his room on the ground floor; Madame Rosenberg, after wishing Hamilton good night, took the house keys out of the cupboard and commenced her usual nightly examination of all the windows and doors. Hamilton sprang up the stairs, and watched at the door of his chamber until he heard Hildegarde separate from her mother and begin to ascend; he waited until she had deposited her candle and work basket on the table in her room, and as she afterwards advanced to close the door he called her out on the lobby, and said, hurriedly, "Hildegarde, I shall have no opportunity of speaking to you alone to-morrow, and must take advantage of this to ask you to forgive and forget all my faults and failings."

"I cannot remember any," said Hildegarde.

"You say so, but I know you think that I endeavored to gain your affections without any fixed purpose. That is true—I mean, this *was* true until lately—but that is of no importance now. Then I must confess I—I was not sorry for the unpleasant termination of the affair with Zedwitz. I now, too, see that I ought not to have come here with you, still less should I have endeavored to make you jealous or——"

"Oh, I give you absolution for all," cried Hildegarde, interrupting him, "and hope you will endeavor to forget how often you have seen me impatient or in a passion."

"I have already forgotten it, and wish I could forget everything else besides that has occurred during the last eleven months. We have been eleven months together, have we not?"

"I believe so," answered Hildegarde thoughtfully. "It appears to me much longer; my life has been so different from what it was before that time, I feel almost as if I had known you eleven years."

The sound of closing doors no longer distant made Hamilton whisper anxiously, "I shall not find it easy to part from you with becoming firmness before so many witnesses to-morrow, Hildegarde, still less should I have courage to entreat you once more to accept the little watch which you so unkindly returned to me last Christmas. Will you again refuse it?"

"No," she replied, "although I should have greatly preferred something of less value; I only wish I had anything to bestow in return; but I have nothing, absolutely nothing."

"Stay," said Hamilton, with some hesitation, "you have something, which you value highly, though I do not know why; a little mysterious bauble, which I should like to possess."

"Name it, and it is yours," said Hildegarde, eagerly.

He placed his finger on the hair bracelet which she constantly wore.

"Ah, my bracelet!" cried Hildegarde, with a look of surprise, "if you wish for it, certainly; in fact it is better." She held her arm towards the door of her room, that the light from the candle might fall on it, and Hamilton thought he saw tears in her eyes as she endeavored to unclasp it.

"I only value it because you appear so attached to it," he said, half apologetically. "Before it comes into my possession, however, you must tell me whose hair I am about to guard so carefully for the rest of my life; not Mademoiselle Hortense's, I hope."

"No," said Hildegarde, holding it towards him.

"Tell me whose hair it is!" he cried eagerly, for Madame Rosenberg's heavy step, and the jingling of her large keys became every moment more audible, and as she approached the staircase, he again repeated, "whose hair?" but Hildegarde, instead of answering, sprang into her room just as a long ray of light from her mother's candle reached the spot where they stood. Madame Rosenberg found Hamilton's door shut, and Hildegarde on her knees beside her bed, with her head buried in her hands.

And Hamilton never suspected that the bracelet he examined so long and earnestly that night was made of his own hair, obtained at the time he had been wounded in the head, by the fall from, or rather with, his horse.

The whole family were assembled at an early hour the next morning, to witness his departure. Madame Rosenberg unreservedly applied her handkerchief to her eyes; her father looked grave; the two little boys, half frightened at the unusual solemnity of the breakfast table, whispered and nudged each other, while Hildegarde, pale as the wife of Seneca, was apparently the only unmoved person present.

Hamilton took leave of all the workmen and servants, shook hands with Mr. Eisenmann, was kissed in the most maternal manner on both cheeks by Madame Rosenberg, embraced the little boys, and held Hildegarde's hand in his just long enough to cause a transient blush to pass over her features and make her look like herself.

After he had driven off, he turned round in the carriage to take a last look, and it seemed to him as if her beautiful features had turned to marble, so cold and statue-like were they. Madame Rosenberg was returning into the house, talking to her cook; the old man was gayly playing with the children; Hildegarde stood alone, motionless, on the spot where he had left her.

"Is that indifference?" thought Hamilton.

There is yet another peculiar merit of "The Initials." It displays a knowledge of the human heart, in its more delicate

and intimate relations, quite Shaksperian. Never was the heroine of a novel so undemonstrative as Hildegarde. To a superficial observer there was ample cause for Hamilton's frequent skepticism in regard to her affection. Self-possessed and cool while he flirted with Crescenz and Lina Berger, calm when he spoke of his intention to depart and even when in view of the existent pestilence, he alluded to his own death;—kindly, familiar, cheerful, and saying occasionally the most annoying things. Were it not that she manifested an anxiety for his good opinion by sometimes explaining circumstances apparently prejudicial to her own rectitude, we might infer that, to use his own expression, she cared nothing for him. But this idea we never seriously entertain, nor did he in his inmost heart, and herein is the consummate tact and truth to nature of the author. She seems intuitively to have grasped the significant moral fact that expression is almost in inverse ratio to feeling. The more conscious we are of a sentiment, the less do we feel the necessity of uttering it. Professions are usually the substitute for feelings. It is with the soul as with nature, her deepest experiences are hinted, not wholly revealed. This explains why silence is often greater than speech, and why persons with great fluency are so often meagre in thought and transient in emotion. It is a well-authenticated fact that men and women who habitually "talk sentiment," as the phrase is, are destitute of earnestness of soul. The existence in the heart of a human being, with strong character, of any dominant and prevailing sentiment, is, of itself, a check to expression; "the still water runs deep." Hence Dante's abrupt conclusion of Francesca's story—"*quel dì non leggevámo piu.*" Now this principle or law of our nature is constantly violated by novelists; their lovers address one another in sentimental harangues or epistles, until we can only imagine their hearts as exhausted urns that have not overflowed in speech, but been drained by it. The worth and reality of Hildegarde's love—owing to her retinance—on the contrary, is so deeply appreciated by the reader, that it seems exactly as fresh and true in the Alpine domicile of the married couple, and amid the elegant prosperity of the English home where we leave the pair, as it did in the youthful tête-à-têtes at Munich. We cannot but fancy her becoming a moral necessity as a companion; and feel that while she is "not too bright and good for human nature's daily food," she is also "nobly planned." Indeed, Hildegarde is one of those creations that glide from the written page to the heart's recesses, to cheer the memory with a permanent and endeared image.

THE YANKEE IN CHINA.

Interpreter. Ladies and gentlemen, you have appointed me your interpreter and Cicerone in China. I will not make an indiscreet use of the permission to *lie*, which is given to travellers by the indulgence of the candid. I see, you pant for novelties; you are tired of the sunshine, so classically faultless, of our Europe; whatever is strange and eccentric must have an irresistible charm for you. Well, I promise to do my best to keep your imagination on the stretch. . . . Allow me to give you, before we land, some geographical notions respecting the country we are going to visit. That portion of the Asiatic continent which is usually called the Chinese Empire, forms one of the most extensive dominions ever ruled by a single power. The Chinese divide their country into *three* principal parts: 1st. The Eighteen Provinces, or that part which is more strictly called China Proper; it is, with some addition, the country which was conquered by the Mandchus in 1664. 2d. Mandchuria, lying north of the Gulf of Liautung, and east of the inner Douarian Mountains, to the Pacific. 3d. The Colonial Possessions, including Mongolia, Ili (comprising Sungaria and Eastern Turkestan), Koko-Noor, and Thibet. Let us peruse the map of the empire. You see that the Eighteen Provinces are arranged by the Chinese in the following order: Chih-li, Shantung, Shansi, and Honan, on the north; Kiangsu, Nganhwui, Kiangs, Cheihkiang, and Fohkien, on the east; Hu-Peh and Hu-Nan in the centre; Shensi, Kansuh, and Sye Chuen on the west; and Kwang-Tong, Kwang-Si, Yunnan, and Kwei-Chau, on the south. . . . The island of Hainan forms one department in the province of Kwantung, the western half of Formosa, a department of Fohkien, and the Chusan Archipelago, a single district in the department of Ningpo in Checkiang.

The Eighteen Provinces alone are known under the name of *China*. It is the only part which is settled by the *Chinese*. The Eighteen Provinces lie on the eastern slope of the high table-land of Central Asia, in the southern angle of the continent. That part of the empire can stand the comparison with any other portion of the globe for fertility of soil, salubrity of climate, beauty of scenery, magnificent and navigable rivers.

The rivers of China are her glory; they afford great facilities for inland navigation. That portion of the Chinese geog-

raphy is the most interesting. The four largest rivers of the empire are the Hoang-ho, or Yellow River, the Yang-Tze-Kiang (or Son of the Ocean), the Hehlung-Kiang, or Amour, and the Tarin or Yar-Kiang. The Yaring-Tsiang-Boo runs more than a thousand miles within its borders. The Hoang-ho, or Yellow River, is the most celebrated of those magnificent rivers, though the Yang-Tze-Kiang is the largest and most useful.

. . . Peking is the capital of the empire. It is situated upon a sandy and barren plain, incapable of sustaining vegetation. In the opinion of the Chinese, it is one of the most ancient cities, but it was made the capital of the country by the Mongols, when Kublai, in the year 1282, established his Court at this spot, then called Shun-Tien-foo (city obedient to Heaven); Kublai afterwards removed it to Hang-Chaio. The native emperors, who succeeded the Mongols, held their court at Kiang-Ning-foo, or Nanking, until Yong-Lo, the third monarch of the Ming dynasty, who (as Prince of Yen, had reigned at the former capital, Peking) transferred the seat of government there in 1411, where it has ever since remained.

The most important part of the empire is known under the name of China. Historians ascribe the origin of that name to the dynasty of Tsin, whose chief first obtained a complete sway about 250 years before Christ.

. . . Ladies and gentlemen, we are now in view of Canton. Yonder comes a mandarin of the *third* rank. He is a *civilian*, and not a *military* mandarin.

A Lady. How can you distinguish them, Mr. Interpreter?

Interpreter. Very easily. By the button on the cap, and the bird embroidered on the breast of the robe. The wings of the pheasant are *folded*, and one of its legs is *lifted* up, to denote that the mandarin still aspires to a higher station. Allow me to mention the *leading characteristics* by which you will be able to distinguish the mandarins of different ranks. The breast of their robe is adorned with emblematic figures. On the *back* of it is the image of a dragon, of which I shall hereafter speak at length. The Emperor alone has a dragon embroidered on the *breast* of his imperial dress. The mandarins are of two orders—the civilians and the military. The civilians sit on the *left* of the Emperor, the left being the place of *honor*, and the military officers sit on the right. The breastplate of the civilians is adorned with *birds*, and that of the military with quadrupeds. Civilians of the first rank wear a precious ruby,

or transparent red stone; a stork with *spread* wings is embroidered on the breast and back of the robe. The military of the same rank differ only in having a unicorn, instead of a stork, on the robe; the button and girdle clasp being the same as that of the civilians.

The Yankee. Why is the stork represented *flying?*

Interpreter. Its spread wings are an emblem of supremacy.

A Lady. And what means the precious ruby you have spoken of?

Interpreter. The button, or precious ruby, is an emblem of authority. It is fastened to the top of the cap, and is of a different color and size, according to the rank of the functionaries, independently of their civil or military character. The use of the red coral button became the fashion in the reign of the Tartarean prince who conquered China. It is the emblem of a mysterious stone hidden somewhere in the Middle Kingdom, and whose influence checks the warlike spirit of the inhabitants.

A Lady. Mr. Interpreter, will that mandarin be so kind as to tell us the young emperor's name?

Interpreter. The present emperor's imperial name is Shenn-Fong (meaning, plenty for all), the Great Plenty. I must inform you that it is forbidden to pronounce the emperor's *child*-name, which corresponds to our Christian name. The members of the imperial family, alone, have that privilege. When an emperor of China ascends the throne, he abandons his child-name, and adopts an *imperial* name. The child-name of the late emperor was Yuer (the Gloomy), and his imperial name Tao-Kwang (Glory of Reason). I have already informed you that the imperial name of the present emperor was Shenn-Fong (Plenty for All). Everybody knows the exclamation of Sir John Falstaff (in the Merry Wives of Windsor): "Let the skies rain potatoes, and hail sweet kissing comfits!" The rebels, who are, actually, attempting to overthrow the present dynasty of the *Tartars*, are headed by a Chief, who is said to be a descendant of one of the *Chinese* dynasty. He has already assumed the title of Tienn-Teh (Virtue of Heaven).

A Lady. In the *Chinese* museums, in Europe, I saw the Cerean statue of the Emperor of China, dressed in magnificent *yellow* silk garments. The catalogues say that the Chinese subjects cannot wear garments of the *same* color. Why not, Mr. Interpreter?

Interpreter. When a Chinese emperor ascends the throne, he chooses one of the seven colors for his livery. From that day the use of the same color is forbidden to his subjects. All the emperors of the same dynasty adopt their ancestors' livery. When a new dynasty ascends the imperial throne, it immediately adopts a different color. The theory of the adoption of colors requires an illustration. According to the Chinese, every man is supposed to be born under the influence of one of the *five* elements—earth, water, fire, wood, and the metals. Each of these *Chinese* elements corresponds to a particular color, by which it may be designated; for instance,—fire corresponds to red, water to black, the earth to orange, wood to green, and the metals to yellow. So, when a prince ascends the throne, he declares himself born under the influence of one of the *five* elements, and adopts the color corresponding to it. When the Chinese historians allude to the Yellow Dynasty, we must understand that its chief or founder, the day he ascended the throne, declared himself born under the influence of the *metals*, (as the reigning dynasty), and has adopted the yellow color for his livery.

The Chinese, when speaking of their emperor, must make use of certain expressions, such as Ching-Zinn (the holy man), Ta-Hoang (the great emperor). But when the emperor speaks of himself, in his supplications to Heaven, it is always in the most humble terms, such as—"I, the *stupid*, the poor sinner, the man deprived of virtue," though, in his transactions with the kings of Europe, he styles himself the Son of Heaven, Tienn-Tze. His edicts, written in red ink, are called Tchoo-Peao (the vermilion order), but they are generally entitled the Great Dragon's compositions. In the Celestial Empire, the dragon is the symbol of power, as the lion in Europe. The eagle is the emblem of the empress. The historians of the Middle Kingdom sometimes speak of circumstances *favorable* to the ascension of the Dragon. I feel bound to illustrate that expression. In China, the lion or dragon furnishes comparison for everything terrible, imposing, and powerful. His abode is the deep ocean. But when favorable circumstances occur, such as stormy days, the dragon ascends to Heaven. The Chinese say that the bloody struggles of civil wars are favorable circumstances for some dragon, or conqueror, to usurp the crown.

On the emperor's sceptre are engraved the two characters: Yu-Ee, signifying "As you will." Mr. Wells Williams says that perhaps the origin of the name is derived from a use

similar to that ascribed to the golden sceptre of the King of Persia, which assured the *safety* of the persons who came into his presence *unbidden* when the sceptre was held out to him. I think, gentlemen, that Mr. Wells Williams is mistaken. According to Chinese ideas, respecting the origin of the imperial power, the inscription *cannot* have any other meaning than this: "Rule according to your *will*, which shall be law." Mr. Wells Williams corroborates my opinion when he says: "That the emperor is the *source* of law, and dispenser of *mercy;* no right can be held in opposition to his *pleasure;* no claims maintained against him, and no privilege protect from his *wrath*."

The emperor is the head of all religion, and is alone privileged to pay adoration to Heaven; he wears robes of a blue color, in this circumstance, in allusion to the sky; and when he worships the earth he clothes himself in orange-colored garments; he wears red when he worships the sun, and pale white for the moon. . . . . .

. . . . The sovereigns of the Celestial Empire fancy themselves the great rulers of the world; the kings of Europe are their subjects. The late emperor, Tao-Kwang, writes to the Queen of England: "The instrumentality whereby the celestial court holds in subjection all nations, is truly divine and awe-inspiring beyond the power of computation. When you shall receive this document, *with due respect*, let a speedy reply be returned, informing me of the orders you have given for entirely destroying opium in every sea-port. To save your soul, take care not to *tell lies* to win time, but earnestly reflect and obey."

All that "is horribly stuffed with epithets of war." The emperor is fully convinced that, were he not to send tea to his subjects of Europe and America, they would starve. In his letter to the Queen of England, Tao-Kwang says: "And, as regards rhubarb, tea, raw silk, should foreign nations be deprived of them, they would be without the *means of continuing life*."

The Chinese sovereigns believe, too, that it is a well-established custom in Russia, to poison the Czar or Emperor; that the crowned gentleman must *willingly* submit and . . . *sip* . . . the arsenical draught, after a reign of several years!!!

. . . . . The empress's sphere is very limited. The garden-walls of the palace are the bounds of the world to her; the most part of her time is devoted to trivial amusements. To encourage the cultivation of the mulberry, and rearing of silk-worms, the empress, accompanied by her principal ladies,

sacrifices at the altar of the inventor of silk manufactures. This is the only *state* ceremonial at which she officiates. . . .

. . . . The first American vessel sent out to China, sailed from New York, in 1784, and was soon followed by others. The American trade increased rapidly until 1789; at that time there were more American vessels at Canton than from any other country, except Great Britain. The United States, for sixty years, had no official dealing with the government of China, until the recent mission of Mr. Cushing. The consuls at Canton were merely merchants, having no salary from their governments. Mr. Caleb Cushing and his suite arrived in China February 24th, 1844. They took residence at Macao, and forwarded to the emperor the following letter, written to His Majesty by the President of the United States, John Tyler:

"I, John Tyler, President of the United States of America, send you this letter of peace and friendship, signed by my own hand: I hope your health is good. China is a great empire, extending to a great part of the world. The Chinese are numerous; you have millions and millions of subjects. The twenty-six United States are as large as China, though our people are not so numerous.

". . . . The Chinese love to trade with our people, and to sell them tea and silk, for which our people pay silver, and sometimes other articles. But if the Chinese and Americans will trade, there shall be rules, so that they shall not break our laws or your laws. Our minister, Caleb Cushing, is authorized to make a treaty, to regulate trade. Let it be just. Let there be no unfair advantage on either side. Let the people trade, not only at Canton, but also at Amoy, Ning-Poo, Shanghai, Fuchau, and all such other places as may offer profitable exchanges, both to China and the United States, provided they do not break your laws, nor our laws. We shall not take the part of evil-doers. . . . Let the treaty be signed by your own imperial hand. It shall be signed by mine, by the authority of our great council, the Senate. "Your good friend,

"JOHN TYLER, 12th of July, 1843."

Mr. Cushing had already prepared the outline of a treaty, which greatly abridged the negotiations. It was signed on the 3d of July, 1844. Since that date, the honorable Alexander Everett has been sent to China, as Minister Plenipotentiary from the United States.

Mr. Wells Williams relates that during the interval of the arrival of the American ship, the Brandywine, and the entry of the Ky-Ing into Canton, that vessel went up to Wampoa; but Tching, a timid old man, refused the polite invitation of Commodore Parker to visit her. The frigate had brought out a flagstaff and vane for the Consulate at Canton, which was erected in the garden opposite the factories; the vane was in the form of an arrow, and, as it turned its barb to the four points of the compass, the superstitious inhabitants thought it conveyed destructive influences around, transfixing all the benign operations of heaven and earth, and thereby causing disease

and calamity among the people. An unusual degree of sickness prevailed at this time in the city and its environs, which the geomancers and doctors declared would not cease until the deadly arrow was removed. The people accordingly *waited* on the consul, Mr. Forbes, to request the removal of the arrow; the consul substituted a vane of another shape. An unsuccessful attempt was made to get possession of it for some superstitious purpose; the gentry issued a placard the next day, commanding its removal, and requesting the people to harbor no ill-will towards the Americans on the cause of the sickness, for the mortality would soon diminish.

The Chinese pronounce foreign names *à la Chinoise:* they say Ameliko, for Americans; Falanze, for Français or French, and Enkilis for English. The Americans are likewise called Hwaw-ke, (flowery flag), on account of the stars that adorn it.

In 1812 there were, in the eighteen provinces of China, 360,279,827 inhabitants, and 2,167,286 in Tartary, subject to the Chinese government. They perhaps now exceed 400,000,000! . . . . .

. . . . . The theory of the Chinese government is the patriarchal; the emperor is the sire, his officers are the responsible elders of its provinces, and the great leading principles by which the present Chinese government preserves its power over the people consist in a system of strict *surveillance*, and mutual responsibility among all classes . . . . They are enforced by such a minute gradation of rank and subordination of officers, as to give the government more of a military character than at first appears, and the whole system is such as to make it one of the most unmixed despotisms now existing. Says Mr. Wells Williams, it is like a net-work extending over the whole face of society, each individual being isolated in his own mesh, and responsibly connected with all around him. The man who knows that it is almost impossible, except by entire seclusion, to escape from the company of secret or acknowledged emissaries of government, will be cautious against offending the laws of the country, knowing, as he must, that, though he should himself escape, his family, his kindred, or his neighbors, will suffer for his offence . . . The effect of these two causes upon the mass of the people, is to imbue them with a great fear of the government, both of its officers and its operations . . . Men are deterred, too, by distrust of each other, as much as by fear of the police, from combining in an intelligent manner to resist governmental exactions.

. . . . . The modern classifications of the people, recognized, however, more by law than custom, are various and comprehensive. *First*, natives and aliens. The latter include the unsubdued mountaineers and aboriginal tribes still living in various parts of the empire, races of boat-people on the coasts, and all foreigners residing within its limits, each of whom are subject to particular laws. *Second*, conquerors and conquered, having reference almost entirely to a prohibition of intermarriages between Mandchus and Chinese. *Third*, freemen and slaves. Every native is allowed to purchase slaves, and retain their children in servitude ; and free persons sometimes forfeit their freedom on account of their crimes, or sell themselves into bondage. *Fourth*, the honorable and the *mean*, who cannot intermarry without the former forfeiting their privileges ; the latter comprise, besides *aliens* and slaves, criminals, executioners, police-runners, actors, jugglers, beggars, and all other vagrant or vile persons.

. . . Ladies and gentlemen, we are arrived at Canton. Let us step on shore, and walk to my friend Koo-Sching's villa. Remark the public buildings are numerous in Canton ; there are 124 temples, pavilions, halls, and other religious edifices within the circuit of the city. . . . We cannot yet see the foreign factories. They are in the western suburb. You will certainly be surprised to hear that the space occupied by the whole foreign community in Canton is hardly equal to the base of the largest of the pyramids of Egypt. The manufactories are all, more or less, connected with the foreign commerce. Many of the silks exported are woven at Foo-Schan, a large town situated about ten miles from Canton. You can discover the suburb of Honan, opposite Canton. It offers a few walks for recreation ; the inhabitants go over the river to ramble in its fields, or in the cool ground of the great temple. Foreigners cannot safely venture in the country ; rowing up the river is their favorite recreation. . . . Yonder is a *universal* workman ; in China the sawyer's, the carpenter's, the joiner's, and the shoemaker's trade, are all exercised by the same person. A Chinese mechanic knows nothing about augers, braces, bits, gimlets, drawing-knives, spoke-shaves, and the other tools used in Europe, to save labor and time. . . . The number of persons engaged in different mechanical employments in the city of Canton is estimated at 246,000, and each of the respective trades, form, to a certain degree, a separate community ; they have their own laws and rules for the regulation of their business. The wages of journeymen carpen-

ters, blacksmiths, and mechanics, are about twenty-five cents a day and boarded; wood carvers sometimes get forty cents, and ivory carvers sixty cents. Mechanics eat three meals a day; at 7 A. M., at 1 and 6 P. M. The food consists principally of rice, with a little fish or pork to season it, and some vegetables.

The Yankee. Mr. Interpreter, what means the bill posted on that wall?

Interpreter. It is an old proclamation against the English.

An Englishman. Perhaps a provoking insult to England, to my country! I must tear it!

Interpreter. Do not, sir; you would raise the whole city of Canton against us.

A Lady. The Chinese are actually on friendly terms with the English; why did they leave that bill posted up for six years?

Interpreter. Because, in China, a piece of printed paper is an object of veneration. A Chinese would not trample on the leaf of a book as we irreverently do. The citizens of Canton will never tear that proclamation. You will be astonished to hear that not a single citizen (except the scholars) is able to understand the Emperor's proclamations, which are always written in the ancient style, as our doctors sometimes write in Latin. The imperial edicts, decrees, and proclamations must be translated in the idiom of every province of China, otherwise they would not be understood. . . .

. . . Let us examine those pagodas; they constitute one of the beauties of a Chinese landscape. They are supposed to be monuments of Budhism, Budhistic temples being found in their vicinity, and some pagodas containing idols of Budha. Chinese pagodas vary in height. The most famous is the celebrated Porcelain Tower, at Nanking; it numbers nine stories, and rises 220 feet from the ground. There are Parsees' Temples, too, in China. The Parsees are the descendants of the ancient Ghebers, or worshippers of fire, who, driven out of Persia, on account of their religion, by the usurper, Kaliff Omar, sought refuge in Hindostan. When Bombay became a British possession, the Parsees came to that place, and their descendants considering it as their home, go from thence to Calcutta, Madras, and China. The Mahometans first entered China during the seventh century, and are now met with in all parts of the country, where they enjoy the same privileges as the rest of the Chinese subjects, and are fully admitted to government offices. There are about three thousand Mahome-

tans in the city of Canton, where they have a mosque. Budhism appears to be the most popular religion of the middle and lower classes in China, and it is chiefly supported by them. Its priests are principally from the latter class, and are sometimes fugitives from justice, who, to escape the sword of the executioner, shave their heads, disguise themselves in the garb of priests, and, retiring to the cells attached to the Budhist temples, elude the search of the mandarins.

. . . The Budhists believe in a future state of existence, and in the metempsychosis or transmigration of souls, as a reward to the virtuous, and punishment to the guilty. Their paradise, as they describe it, is of "yellow gold." Its gardens and palaces are all adorned with gems. It is encircled with rows of trees, and borders of net-work. There are lovely birds of sparkling plumage and exquisite notes. All the gods and sages of heaven and earth will one day be assembled in that sacred spot. But in that kingdom there are no *women*, no houris, as in the paradise of Mahomet—women, before being admitted in that country, are changed into *men*. The inhabitants are produced from the Lotus flower, and have pure and fragrant bodies, fair and well-formed countenances, with hearts full of wisdom, and without vexation. They dress not, yet are not cold; they dress, and are not made hot. They eat not, and are not hungry; they eat, and yet never know satiety. They are without pain and sickness, and never become old. Enjoying themselves, at ease, they follow Budha, gayly frisking about without trouble. . . . But if the paradise of the Budhists is an inviting one, their hell is the abode of unspeakable misery—for, the unfortunate beings who are condemned to the infernal regions, are torn in pieces, thrown upon hills of knives, or into boiling caldrons, sawn asunder, fastened to pillars of red-hot brass, and otherwise tormented according to their crimes, until, transformed into some of the six grades of metempsychosis, they again revisit the earth to do penance. One of the most favorite doctrines of Budha is, that all things originated in *nothing*, and will revert to nothing again Hence, *annihilation* is the summit of bliss. . . .

. . . The climate of Canton and its vicinity is healthier than that of the other ports. That of Macao, especially, may be considered superior to that of most other places situated between the tropics. A fall of snow occurred in Canton in 1835, and remained on the ground for several hours. It was deemed an extraordinary event; the people, not knowing its proper name,

called it Falling Cotton, and endeavored to preserve it as a *febrifuge*.

. . . Gentlemen, we are now in one of the great streets of Canton. Remark that the Chinese stores, like the houses, are generally of one story. Nearly all are destitute of yards, and have only a platform upon the roof. . . . Yonder is a quack selling his drugs. . . . Do you wish to be vaccinated? Prepare yourselves; the surgeon is going to proceed to the operation.

The Yankee. But why does he pull that Chinaman's nose?

Interpreter. He is vaccinating him. The Chinese vaccinate in the nose.

The Yankee. In the nose?

Interpreter. Yes, sir. The vaccinating *substance* is dried, pulverized, and introduced in the nostrils. When thus vaccinated, you will be able to smell the perfumes of the "Flowers of Heaven" without danger.

A Lady. What do you mean, Mr. Interpreter?

Interpreter. I mean that the gentleman will not catch the small-pox, called *Flowers of Heaven*, in China.

The Yankee. Oh! wonderful; most wonderful wonderful; and yet again wonderful!!! What! flowers that *bloom* in the calm of night, when the moonlight lies fair and breathless on the lawn, are the emblems of small-pox?

Interpreter. Yes, sir; it is a *poetical* expression. You understand, now, what Clown Touchstone calls "the very false gallop of poetry."

The Yankee. A false gallop, indeed!

A Lady. . . . Oh, what beautiful lanterns!

Interpreter. Lantern and *coffin* stores are always splendid in China. The Chinese display great ingenuity in the construction of lanterns, which form the prettiest ornaments of their dwellings. . . . Yonder hangs a magnificent one. The wire frame-work is covered with paper figures of men and animals, represented in various attitudes; you see horses run, draw chariots, and till the earth; vessels sailing, kings and princes going in and out, with large trains, and great numbers of people, both on foot and horseback; armies marching; comedies, dances, and a thousand other divertisements, are represented. The origin of the Feast of Lanterns is attributed to a Chinese mandarin, whose paternal anxiety lighted up the shores of a lake, where his beloved daughter, "the sole child of his house and heart," had wandered and been lost.

. . . Ladies, remark that magnificent porcelain store. The

manufacture of China-ware originated in the Middle Kingdom, and commenced with the Tang dynasty. . . . If we consider the paste or substance alone, it has never been surpassed by the Europeans, although the advances made in the science of chemistry, and in the art of painting, has enabled them to excel the Chinese in the coloring and execution of the designs. . . . Some idea may be formed of the extent of the manufacture of porcelain, when it is mentioned that several hundred thousand workmen are employed;—the fires of the furnaces, when seen from a distance at night, resemble a city enveloped in flames. . . .

Yonder is a theatre in the ancient Thesbian style. The Chinese raise no permanent buildings for performances. The parties are seen strolling about, always *ready*, and especially *rough*. No women are allowed to appear on the stage—their parts being performed by lads. . . .

A Lady. Why did that actor make a somerset in the air?

Interpreter. It was to give an idea of a man travelling around the world. . . . When a messenger is sent to a distant city, away he strides across the boards, whip in hand, and bending his legs, as if mounting a horse, he runs up the stage, comes back, and cries out that he has delivered his message. Passing a bridge, or crossing a river, are indicated by stepping up, and then down, or by the rolling motion of a boat. If a city is to be assaulted, three men lay down upon each other to represent a wall; then some warriors rush upon them furiously, overthrow the wall, and take the place.

. . . . Ladies, do you hear the noise of the gongs? It is a marriage procession. Here it comes. . . . In China, the bridegroom never goes out to meet his bride. She is brought to his house in a sedan chair, adorned with flowers, and hermetically closed. Musicians tweedling *monstrous little* music, on melodious catgut, accompany the palanquin, and crackers are fired to chase the evil spirits. . . . . On reaching the bridegroom's house, the bride is lifted out of the sedan over a pan of charcoal, placed in the court, and carried into her chamber. After a brief interval she returns into the drawing-room, bearing a tray of betel-nuts for the guests, and both husband and wife worship a pair of ducks.

The Yankee. A pair of ducks?

Interpreter. Yes, gentlemen; as you have not the *living light* of genius, I must help you to . . . . *carve* . . . . those birds, which will certainly make you split your sides with laughing. In China, the goose and mandarin duck are emblems of con-

jugal love and conjugal fidelity. The epithet *mandarin* is applied to the duck simply on account of its excellence and beauty over other species of the same genus, and not because they are appropriated to officers of government. Ladies, you know that harmony between wife and husband is the very basis of a happy household, (though wrangling is said to be one of the sweets of the conjugal state.) When a couple, united by indissoluble bonds, entertain good harmony, all nature smiles upon them. But good understanding is sometimes disturbed; to mend matters, some common friend interferes, and prevails on the couple to eat a duck together. Immediately all that attends a happy household returns, and the Lares return to their shrines.

The Yankee. Wonderful and strange! Strange and wonderful!!!

A Lady. We see that, in China, ducks, especially *fat* ducks, do not live to a *good old* age, "undisturbed by guns, in quiet sleep."

Interpreter. . . . . Ladies, the commission to gratify women's curiosity is certainly one of the most flattering embassies with which a scholar can be invested. As I am not a scandal-monger, what I am going to say is not *satirically complimentary.* I would not conclude by an epigram, but I cannot help it. I swore to tell the whole truth, and conscience of duty yields to no party or sect's consideration. Allow me to speak of the condition of women in China. You know that, six centuries ago, in Europe, a soul was still denied to women. Then, a virtuous wife was not man's greatest pride, for there was no family at that time. A French philosopher, even, very impertinently advanced, that marriage was, *sometimes*, convenient, but *never* delightful. In our days it is still the fashion, in some countries, to style the literary acquirements of the fair sex as *starched* pedantry, and *vain* pretensions. It is the fashion to stigmatize those acquirements, as inconsistent with the domestic affections, and virtue, which constitute the charms of society. Many books have been written on the *amiable* weaknesses and *sentimental* delicacy of women; upon their *timid* gentleness, and submissive dependence. Does not all that savor of the cold contempt of the Romans? The pretensions of men, who think too coarsely of the fair sex, will vanish as all things that are bred by fashion, and women will take their due share of influence in the most important circumstances of life. If the *care-crazed* mothers of our children were the mere surveyors of a household, of a daily *pot luck*,

marriage would be a mock ceremonial, a consecration of slavery.

A Lady. I am of that opinion, sir. Women are destined to form the character of men; so, their own character is not to be broken and frittered. . . . . In our days, female culture seems to consist, almost solely, in a systematic round of non-essentials, under the name of accomplishments, which are deemed necessary to a finished education. But virginity of heart is omitted as a "cold companion," quite out of fashion. It has a substitute in the science of the *fantastic toe*. The subjects of our conversations are still the dancing dogs and industrious monkeys; but the time is come to prove ourselves shielded Amazons against the invasion of trinkets . . . . and egotism, that great destroyer of the soul. Yes, without a heart susceptible of generous sympathies and tender emotions, the influence of beauty is transient, as the blaze of a meteor. The culture of virtue should be the greatest object of maternal education, and young ladies would then be equal to the standard of excellence for which they are designed: noble in every lineament of their nature, and distinguished for that fortitude of affection which renders a wife the prettiest flower a worthy man can wear next his heart. That flower is divine; with it, the very countenance of woman is full of majesty; but without it, beauty is a rose deprived of fragrance. In our days, a wife ought not to be regarded as a *weak* creature, whose influence must be confined to the threshold. Why could she not write, read, and speak, without sullying that purity of heart Hamlet styles "the chaste treasure?" Mr. Interpreter, I have interrupted you. Proceed, sir.

Interpreter. Allow me to conclude on the subject of women, and their condition in China. It is vain to expect that any change in the extent of their education will take place until influences from abroad are brought to bear upon them.

A Lady. We acknowledge the *apropos* of your observation, sir; but we must own, too, that men are the cause of the degradation of women in China.

The Yankee. The Chinese husbands, like the Richard III. of Shakspeare, are *rudely stamped*, and want love's majesty. The antipodes do not seem, generally, to be masters of a great share of good sense. They have fallen into the same error as the Romans, and treat their wives as our American Indians treat their squaws. We see that a Chinese husband is a surly tyrant, whose heart is buttoned up with *steel*.

Interpreter. And a Chinese wife a *movable*, a slave, queen

only of her own slaves. The husband, instead of arming himself with fortitude to bear the loss of his wife's beauty, and provide himself with a fund of complaisance, requisite to feed a constant intercourse, changes his Lao-Pee, old wife, for a King-Nienn-Niou, a young wife (a wife light of years). The great philosopher, Confucius himself, repudiated his old wife to marry a young one. The repudiated generally submit, and never complain, for they are deemed *perfect* when thoroughly ignorant. The women of the poor class are very seldom taught to read and write. The daughters of the wealthy receive *something* like an education. . .

The Yankee. In that country, no doubt, "many a *good hanging* (when the *men* are hung) prevents a bad marriage," as the clown says in Twelfth Night.

Interpreter. Disobedience to the husband's relations, and *talkativeness*, are among the seven causes of divorce.

The Yankee. Talkativeness?

Interpreter. Yes, sir; a Chinese proverb says, "If a chattering bird be not placed in the *mouth*, vexation will not sit between the *eyebrows*.

A Lady. Of course; does not Launce *prove*, in the Gentlemen of Verona, that "to be slow in words is a woman's *only* virtue?" . . . .

The Yankee. . . . . Yonder comes a gentleman with his fan and lantern in hand.

Interpreter. That gentleman is a *soldier*. The Chinese soldiers never walk without their fan and lantern. In the last war with the English, some Tartars advanced to meet the barbarians; their faces were painted in order to frighten the enemy. The officers recommended their men to throw their opponents upon the ground as soon as possible; for, being once down, the English, from the tightness of their breeches, would be unable to rise without assistance, and would, consequently, be entirely at their mercy.

The Yankee. Mr. Interpreter, is that a Criminal Court?

Interpreter. Yes, sir; let us assist at a trial. The Mandarin Judge sits behind a desk, with writing materials before him, and the lictors with their instruments of punishment and torture stand around. The common people, in the presence of the magistrates, speak on their knees; but old men, and men of consideration, are requested to rise; even criminals, with gray hairs, are treated with respect. . . . .

A Lady. What means the inscription on the wall?

Interpreter. It is a sentence from Confucius; it exhorts the judge to be merciful.

A Lady. But the inscription is behind the judge; he cannot see it.

The Yankee. It is the same in the criminal courts of Europe. The image of Jesus Christ is always behind the judges. So when sentencing they never think of the *Passion* of our Saviour, who redeemed all sinners by his death on the cross, but they obey the promptings of their own . . . *passion*. . . .

Interpreter. The mandarin, being the representative of the Emperor, is both judge and jury. The plaintiff, defendant, and witnesses kneel before him, with the iustruments of torture placed near them. No counsel is allowed to plead, but the written allegations required must be prepared by licensed notaries, who may also read them in court. . . . . Gentlemen, examine the instruments of torture. . . . . The Chinese put the question by twisting the ears, pulling and keeping them in a bent position, while the prisoner is compelled to kneel in chains. . . . . Sometimes the patient will be chained by the neck close to a stone, and, in this position, he will be plagued, to prevent him from sleeping till death ensues. . . . . Strangulation, called the "silken twist," is inflicted upon a heavy upright wooden cross, by twisting a cord tight round a man's ankles and staff, then around the waist, the wrists, and lastly round the neck. . . . . Offences against the Emperor are considered the most aggravated; the punishment inflicted is cruel and ignominious, being that of *slowly cutting* to pieces. Not only the criminal, but his innocent family is immolated. . . . . A curious feature in the Chinese legislation is, that substitutes are allowed *even* for criminals condemned to decapitation; and what will certainly astonish you is, that men are to be found in that populous country to suffer in place of another, and that for a small competency for their families. . . .

. . . Now, ladies and gentlemen, let us repair to my friend Koo-Sching's house. The Chinese merchants live in their stores, and, as business will admit, they visit their family daily or weekly, at a private residence, in some comfortable part of the city.

. . . You see, the doors of houses are very seldom rectangular; they are round, or semicircular.

A Lady. Why that, Mr. Interpreter?

Interpreter. The Chinese say it is desirable they should not open opposite each other, lest evil spirits find their way, from the streets, into the recesses of the dwelling. . . . Walk in,

ladies and gentlemen. . . . Admire that tea-box; it bears an inscription, which means: "The eyes (of women) create happiness: so do those pearls." The pearls spoken of are the grains of tea in that box. . . . Allow me to acquaint you with the form of etiquette generally required in good society. . . . Though a Chinese has never seen his guest, he is bound to salute him thus: "Sir Barbarian, I have been deprived of the benefit of your advices a very long time, indeed. I have always admired your talents and virtues, but, hitherto, have had no opportunity of paying my respects." . . . . If you inquire after the health of your host's relations, you must begin with the eldest living, and ask how many *sons* he has; it is not considered good-breeding to make any remarks respecting his wife. No Chinese gentleman ever asks to see the ladies. . . . Gentlemen, do you understand that inscription on the door of my friend's library?

A Lady. That's *Hebrew* for us. . . .

Interpreter. Well, the two characters or words, "Pohhoe, mean, No more doubts . . . I doubt no more." The motto is from Confucius; his disciples always inscribe it on the door of their libraries. Confucius meant, by the device, that he was *forty* years old; that he was grown an experienced man, but at the expense of what is always deemed untimely slain—youth. . . . . .

The Yankee. . . . Mr. Interpreter, I would like to know what *impossible* matter you are going to make easy now?

Interpreter. Open your ears, and listen. You would have a fit of sneezing, were a well-bred Chinese gentleman to inquire of you, if you still have your *nose*. . . . The question means, "Is your grandfather still of this world." An ancestor is called Pee-Tzoo, the ancestor of the nose, in the Middle Kingdom. According to the Chinese, the *nose* is the first part of the human body created.

The Yankee. What! a red, spongy and warty nose, ugly beyond expression, is the *root* and grandfather of many children?

Interpreter. Of course. According to the Chinese physiologists, the *breast* is the seat of the intellect. The heart lies underneath the lungs, and is the prince of the body; thoughts proceed from it. The liver is on the right side, and has seven lobes; the soul resides in it, and schemes emanate from there. The gall-bladder is below, and projects upwards into it; when the person is angry, it ascends. The *machinery* of the head, our knowledge-box, (the Nao-Tai, or brain-bag, in China),

being too small for the mind, the Chinese look for an assistant; they choose the breast, and its *vicinity*.

The Yankee. Indeed, that is the *chaos* of thought and passion all confused! Some witty punster might say that, in the Celestial Empire, the foot must be the seat of the .. *sole* . . . In that country the head of man is, perhaps, a strange, vacant-sounding shell. . . .

Interpreter. Certainly. The Chinese often speak of the "Humanity of the liver." I must illustrate that expression. According to the physiologists of the Middle Kingdom, the different parts of the body correspond to the moral sentiments, to the four cardinal points, and to the elements; for instance: the liver corresponds to humanity, to the east, and to wood; the lungs to justice, to the west, and to the metals; the heart to well-regulated motions, to the south, and to fire; the loins to science, to the north, and to water; the blood to sincerity, to the middle, and to the earth.

The Yankee. Wonderful, indeed!!! The blood is spilt by tyrants for *sincerity* of opinion in the *middle* of the nineteenth century, a century of civilization, and is *sucked* by the earth, to which it seems to be a natural manure!

A Lady. Mr. Interpreter, shall we be introduced to your friend's legitimate wife?

Interpreter. It will be a great favor, your presence in Canton being somewhat an extraordinary event; ladies from Europe are not allowed to land in this port—they cannot come further up than to Macao. . . .

A Lady. Perhaps we shall be obliged to smoke opium?

Interpreter. Of course. There is an opium pipe. . . . It is called yenn-tsiang (smoking pistol) by the Chinese. . . . A little opium, of the size of a pea, being taken on the end of a spoon-headed needle, is put upon the top of the bowl, and set on fire at the lamp; it is inhaled at one whiff, so that none of the smoke is lost. Old smokers will retain the breath a long time, filling the lungs, and exhaling the fumes through the nose. The taste of the extract is sweet and oily, somewhat like rich cream, but the smell of the burning drug is rather sickening. . . . A green hand, or green-mouth, is content with one or two whiffs, which produce vertigo, nausea, and headache. . . . Temperate smokers limit themselves to a certain quantity daily, and take it soon after meals, so that the stomach may not be so much weakened. . . . Many cases have been known of persons smoking from *two hundred* to *four hundred and sixty* grains daily. After a use of several years,

the intoxicating effect of opium upon the system diminishes, and a reaction gradually takes place. The enjoyment, which had been on the decrease for some time, ceases entirely—the whole system becomes deranged, the members of the body refuse to perform their functions without the aid of opium, and the poor victim finds himself, too late, a slave of the drug, which he is now obliged to use, to escape the most terrible tortures both of body and mind. . . . One hundred millions of dollars have been oozed out of China, within the last fifty years, for opium alone! . . . Gentlemen, we are invited to dinner. Ladies, you are requested to sit at the *same table* as the gentlemen; it is a great favor. Three years ago, when M. Lagrenée, the French Ambassador, came to China, a public dinner was given him by the Prince Mandarin, Ky-Ing. The Ambassador requested the company of the Chinese minister's legitimate wife at dinner, but Ky-Ing was extremely mortified by this breach of dignity, for it is a scandal, in the Celestial Empire, for a gentleman to sit at the same table with a woman. At the pressing instance of the French Ambassador, Ky-Ing complied, but very reluctantly, with the request. Without the company of the lady the feast would have been extremely dull. The separation of sexes in China debases the amusements, and leads the men to spend their time in gambling. Unacquainted with the intellectual enjoyments found in the conversation of our European and American women, the Chinese resort to the dice-box and opium-pipe. Ladies, this day will *gentle* the condition of my friend's wife. She will, certainly, find you amiable and charming. . . .

Ladies and gentlemen, my task is done. . . . My Chinese details must have operated on your minds, like the charms of a powerful exorcist, and repulsed the demon called *Tediousness.*

The Yankee. Oh, yes! the *oil* of eloquence is on your tongue, and the *honey* of persuasion on your lips. We own that you have proceeded *logically*, otherwise your illustrations would have flowed like wine from a narrow-mouthed bottle—either too much at once, or none at all. Gentlemen, we Europeans and Americans are young nestlings just out of the egg, and fantastically absurd in all; we ought not to be so fond of our customs as to retain them, when we see other people do better. France, America, England, Italy, Germany, are inhabitable: there is no possible choice among *rotten* apples. But China is the country where "sense and nonsense join." How I despise that new western world we live in, since

I know *something* about the Celestial Empire! Surely our morals, our doctrines, must be despised as dross! Our opinions are out of date, and must be rejected! We have just enough *sense* to *know* that we are *fools*, and, as Clown Touchstone says, "We shall never be aware of our *wit* till we break our shins against it." The apparition of Chinese apostles is, indeed, too rare in our western hemisphere—like angel-visits, "few and far between." . . . Come, ladies and gentlemen, come: let us go! I am getting dizzy, and shall soon be upside down in that strange country!!!

THE LATE A. J. DOWNING.

"For Lycidas is dead, dead ere his prime;
Young Lycidas, and hath not left his peer.
* * * * *
He must not float upon his watery bier
Unwept, and welter to the parching wind,
Without the meed of some melodious tear.
* * * * *
It was that fatal and perfidious bark,
Built in th' eclipse, and rigg'd with curses dark,
That sunk so low that sacred head of thine."

MILTON.

THE Hudson River attains its highest beauty at that point where, before entering the narrow gateway formed by the opposing piers of Butter Hill and Sugar Loaf, it stretches out into the lake-like expanse of Newburg Bay. In the south rise the hills, upon whose sides hangs the fortress of West Point, like an eagle's eyrie. There is the famous Sugar Loaf, rounded and precise in outline as ever, but robbed of its greatest attraction to sight-seers, in being deprived of that huge projecting mass, called Anthony's Nose, which formerly adorned its southern side, but which was destroyed in the construction of the Hudson River Railroad. Opposite, and forming what we have called the other pier of the gateway, rises Butter Hill, a bolder and more picturesque mountain than Sugar Loaf, whose sides, scarred with the flames that several seasons since destroyed its woods, and left it bare, and gray, and sad to see, rise with their wild ravines and rounded hollows, once filled with verdurous boughs, now desolate and unfair. Still further to the west lies Skunnymunk, serene in its perfect beauty—

the loveliest little hill we ever saw. Sometimes in the early morning, when its sides have caught the first kiss of the sun, every tree, every rock, every dell shows as plainly through the clear medium of our northern air as if we stood at its base, though in truth we are far away. Sometimes, clothed in that veil of hazy smoke, which so often makes these mountains look like unreal, cloudy summits, whose present shape will, ere long, shift and change, broken by the passing wind, we have seen our favorite hill, half real, half a dream, rising, like an exhalation, and palpitating in the azure gray of noon. These hills lie piled together, like the billows of a stormy sea; but, towards the north, they gradually diminish—first, into smaller waves, and lastly into mere rolling swells, until they are again tossed stormily heavenward in the Catskill Range. On the shore of the river, and lying at the foot of one of these subsiding billows, like the foam that creeps sparkling up the beach after the break of the wave, lies Newburg, busy, bustling, and prosperous amid the silence of the surrounding hills.

In the northern part of this village, and on a spot which commands one of the finest views in the vicinity, stands a house, around whose walls gather some of the rarest and most delightful associations. This now deserted seat of hospitality, and of all that is most beautiful in social life, is built in the Elizabethan manner, with some pretension to architectural character. Considering the age of Mr. Downing when it was built—he was then only twenty-four—and remembering also the state of the country with regard to architectural information and the laws of taste, the building is indeed a surprising evidence of Mr. Downing's genius; for, though a large and commodious house, there is positively nothing in it which is offensive, though there are many things which he would, doubtless, have altered, or omitted, had he built at a later period of his life. In the interior a striking dignity and repose of feeling prevails in all the furniture and decorations, a beauty resulting from a total absence of pretension, and the presence, everywhere manifest, of the most exquisite taste and thoughtful remembrance on the part of the presiding genius of the place.

But who would stay within doors when this clear autumnal morning waves his wings at the lattice, and sends from those "sheeny vans" gales of inspiring balm? This garden is enchantment. Many places that we have seen are grander, many more extensive, but none that we know so unites the varying admirations of men as this. To lay out a garden

thus, is as much a work of genius as to write a poem;—nay, it is in some respects more, for does it not inspire poems? Poets have sung its praises, painters have caught on their canvas its wavering gleams of rare ideal beauty; here men of genius and taste have passed hours of fruitful meditation; here, on this lawn, fair ladies have laughed, or charmed the evening air with songs; or, seated in a ring upon the grass, have heard some trembling poet read his lines.

Here Fredrika Bremer loved to stay; and to this place, around which her most affectionate thoughts of America hover, she has sent letters and tokens from her far Swedish home; little thinking that the voice she loved to hear is silent, and the heart she found so warm is done its beating, and the hand whose cunning she so much praised is still for evermore. Here too the brilliant Howadji found a place for musing, and walks whose sylvan beauty was an inspiration, and here, with Xtopher and Willow, made music in the moonlight on the lawn. And, indeed, if this place were fair in the morning light, that changed river, and distant hill, and drooping tree to things of fairy land, and glorious beyond expression in the hours when sunset spread her gold and purple pomp along the West, and flamed through the heavens with rose and amber lights on floating clouds, and transformed the river's azure to a floating sheet of flame, and girt the mountains with robes of ethereal rosy splendor, how magical was its loveliness by moonlight, when, in the awful silence that distilled dew-like with the dew, a myriad stars trembled upon the great dome of heaven, and the moon, "seated in her silver chair, state in wonted manner," kept behind the sliding rack of summer cloud! The morning sun still shines as fair as then, the evening glory is as great as ever, and still the moon is pale—but where is he who informed this beauty with life, and made it seem as if this spot of earth were beloved of heaven, and that Nature worked more gladly here than elsewhere to make all things trebly fair?

It would be overleaping the bounds of literary decorum were we to mention other than public names whose presence made this place glad; suffice it that nowhere, we believe, in America has hospitality been more genuinely dispensed to guests worthy of all that the lordliest hospitality could offer.

Let us look from this house and garden in 1852, backward over a space of thirty-six years. In the year 1816 Mr. Downing was born, in a small farm cottage which stood a few rods from where the gate of his grounds is at present situated, and where his father and mother, with his brother and sister, lived.

Mr. Downing, the father, was the keeper of a nursery, a man in humble circumstances, not poor, but possessed of a moderate property, not sufficient, however, to give his sons many advantages for education. Young Downing went to school but little —the high school of the town, and what was that, thirty years ago? furnished him with all the schooling he ever received, and genius and unremitting application did the rest. He was early noticed as a boy of fine promise by those who have lived to see their prophecies fulfilled, and he formed even in his boyhood many rare friendships with men of influence, which were never broken up. His early manifested tastes for Natural History, and especially for botany, attracted the attention of the Baron de Lideur, the Austrian Ambassador, whose country seat was at Newburg. These two enthusiastic students,—the Baron, a man well advanced in years, and Downing, a handsome, fine-eyed, dark-haired boy,—spent days together in the woods or clambering over rocks and hills, to fill their boxes with botanical specimens; the old man delighting the boy's heart with anecdote or information, and the youth charming the old man with his frankness and genial spirits. Such company, and such interest shown in his pursuits, did much for the boy—they would have done much for any boy of common abilities, but Downing's abilities were not common—they were noticed as rare from the first, and drew upon him the marked attention of men whose notice is at all times an honor. It was a feature of Mr. Downing's history which is not the least important one, that he wasted no time, as many youths do, in the selection of an employment, but with a decisive energy and a far-seeing sagacity selected as his arena the one most suited to his abilities. No young man ever laid his plans with wider scope, or threw himself into his work with greater ardor, or looked forward to a more golden future. Alas! all is dark, and we are called on now as yesterday, and since life began, to mourn over the ruin of all this sagacity, ardor and hope. Ah, what a bitter sigh must have risen from that drowning heart, as those eyes were turned for the last time to that azure sky, that golden sun, that shore teeming with abundant wealth and largest future promise, and then closed forever, and forevermore!

Mr. Downing's novitiate in his profession was passed in his father's house and garden. Here with his father and brother he worked for many years, gaining skill and knowledge as a cultivator of fruits and flowers. But he was never idle; and when he was not in the garden or orchard at work, he was

working over a book or with his pen in the little red farm-house, laying the foundation of that thorough knowledge which placed him at the head of his profession in this country, and enabled him to write with such authority and precision on those subjects with which his name is forever linked in the public mind.

In order duly to appreciate Mr. Downing's labors in the cause of architecture and landscape gardening, we must carry our reader backward thirty years, and ask him to recall the state of the country at large with regard to those matters. We say the state of the country *at large*, because we are fully aware that in Massachusetts, and here and there along the Hudson, there were houses, and many of them are still standing, built by foreign workmen after the designs of foreign architects, which, though by no means discreditable as works of taste, are yet no proof that as a people we had, thirty years ago, any taste or skill in architecture. As for a garden or an estate laid out according to any graceful or elegant design, such a thing did not exist; nor, in spite of all that has been written on the subject, are such objects common even now. Probably no people exists so entirely unlearned and indifferent in all matters of taste as the Americans. The buildings that are put up every month in the midst of our beautiful landscapes, and which meet with admiring criticism from dillettante letter-writers, who have as much idea of what is graceful in building as of what is correct in writing the English language, is astounding to a foreigner, and mortifying to an American who possesses even a modicum of taste and feeling. And it is mortifying to an American, not because he is ashamed of his country and ready to take sides against her, but because there is really no reason why buildings put up in America, especially in our Atlantic cities, should not be equal to any built in London or Europe. We have wealth, and are ready to spend it—I do not say where it could be best spent—but at all events, where it will show best; and it is a pity that money lavished generously on architects can produce nothing better than is daily presented to us in the public buildings, churches, and shops of our great Atlantic cities. We shall have more to say of this at another time, but at present we content ourselves with a general protest, as citizens of New York, against such monsters as the Free Academy, Grace Church, Calvary Church, and the Church of the Pilgrims, with many others of less pretence, but equally abominable, yet palmed upon our deluded populace as exquisite specimens of their various styles. The

words of truth and soberness, not unmixed indeed with righteous indignation, have yet to be spoken on this subject, since even Mr. Downing, armed with the best weapons of argument and satire, often withheld the bolt that hurled by him would have carried certain death, and left the fulfilment of that duty to other and weaker hands.

Thirty years ago, then, our country had nothing to offer the visitor from England or the Continent to fill the place of the architecture he had left behind. Our President did not live in a Palace, our Churches were not Cathedrals, our City Halls were hardly "Hotels de Ville," and our richest citizens were content to live in very plain and unpretending houses of most republican brick. More especially was this the case in Boston, where, even to this day, the houses in Beacon street, the Fifth Avenue and West End of that model city, are such as one of our butterfly millionaires of New York would blush scarlet to be known as occupying. Here and there through the country there were large and stately houses,* not more than one being found in any town, built about the time of the Revolution, and surrounded with all the unrepublican aroma of aristocracy and high breeding which marked the higher classes of that period. The true type of our civilization, and one which it is surprising that none of our architects has ever worked up into a more refined and graceful form, is the Western log-hut, which even in its rudest shape has enough of beauty to redeem it from the charge of total vulgarity. At all events, it is a natural growth, and as such cannot be wholly mean; but being the natural growth of the wants of a singular and in many cases noble class of men, it has undoubted claims to our respect.

The only class of buildings which was in general favor among those who had wealth and were considered in their day and generation men of taste, at the time of which we are now speaking, was the so-called Grecian style. Its claims to respect and the reasons for its universal adoption consisted in its demanding the height of expense to reach the extreme of discomfort, and in no case we believe were these claims unfounded. Moreover, it constituted a complete disguise, since, under the mask of a Greek temple to Minerva, who could detect the dwelling-house, the church, the court of justice, or the bank?

* Among others, we may mention the mansion known as "Washington's Headquarters," in Cambridge, Massachusetts, now occupied by H. W. Longfellow; the old Hancock House in Beacon street, Boston; the Livingston Manor House on the Hudson River, and a fine capacious mansion in Yonkers, now occupied, we believe owned, by —— Woodward, Esq. There are probably many others of this class of which we know nothing.

After all men of taste and sense, among whom Mr. Downing stood pre-eminent, had marked this folly for destruction, and had made its admirers justly ridiculous, it was reserved for New York city, which claims to guide the country in all matters of taste on all subjects whatsoever, to erect in shining marble and enduring masonry a hybrid copy of the Parthenon as the fittest outward shape for her House of Customs. But it was chiefly in our dwelling-houses that our great deficiencies in taste and sense were displayed. The houses of a people are, insensibly to the occupants it may be, indexes to their true domestic character. Hence, while our people were in their raw, half-fledged state of development, out of which they are just now slowly creeping, the houses which they had were appropriately emblematic.

They were good enough for the people, and the citizen who had amassed his wealth by slow but sure processes of accretion, and ignorant of the subtler and swifter methods of obtaining wealth which are now so well understood, was well content to dwell in a house which, poor as it seems in our eyes, was far grander than anything which was to be found in the little village whence he sprang, and which bore away the palm from all the other stylish houses in town.

He had never seen a grander house, nor had any of his neighbors, except his friend, the sea-captain, who had been to China and Calcutta, and had seen the peaked pagodas of the far Cathay, but had never, sworn foe to "the Britishers" as he was, set foot on English soil. Gradually, however, knowledge on these subjects began to be diffused, and with more extended knowledge came better taste and more lavish expenditure.

But it is not to be denied, that in Mr. Downing's books* is

* The following list comprises all Mr. Downing's books, some of which it will be seen he merely edited, though in all these instances his Notes and Introductions add very greatly to the value of the original work.

1. The Fruits and Fruit Trees of America; or, the Culture, Propagation, and Management, in the Garden and Orchard, of Fruit Trees generally; with descriptions of all the finest varieties of Fruit, natural and foreign, cultivated in this country. By A. J. Downing, Corresponding Member of the Royal Botanic Society of London, and of the Horticultural Societies of Berlin, the Low Countries, Massachusetts, Pennsylvania, Indiana, Cincinnati, etc. Illustrated with many engravings. New York and London: Wiley and Putnam. 1847. [One edition of this work, published in large octavo, is illustrated with fine colored plates, executed in Paris from drawings made in this country, from the original fruits.]
2. A smaller edition of the same work, without the colored plates. 12 editions.
3. A Treatise on the Theory and Practice of Landscape Gardening, adapted to North America: with a view to the Improvement of Country Residences. Comprising historical notices and general principles of the art; directions for laying

to be found the true source of the lively interest now taken in all matters relating to taste and decoration. Foreign travel has done much for many; but how few in this country spend any considerable time abroad, or leave their homes prepared by study and well-digested plans of movement to profit by what they see! No; when all other causes have been duly allowed for, the great cause of the increased interest in gardening and architecture among the same class of people who, twenty years ago, cared not a straw what sort of houses they lived in, so long as they kept out the weather and had good chimneys, must be, in candor, ascribed to the writings of a man who saw our needs, who had felt them himself, and who was provided with knowledge to teach, and with skill, taste, and energy, to direct us in the right way. Mr. Downing's books, written, as was everything that came from his pen, in a clear, flowing style, that satisfied the most accomplished ear, and met the apprehension of the dullest mind, had a large and immediate sale. It seemed as if there had been an actual cry —loud, long, and earnest—from the heart of the people, for what it felt to be its need, and he had answered it. Such greeting and reward as might have been bestowed upon one who, to hungry people in a besieged town, should come with

out grounds and arranging plantations; the description and cultivation of hardy trees; decorative accompaniments to the house and grounds; the formation of pieces of artificial water, flower gardens, etc. With remarks on rural architecture. Fourth edition—enlarged, revised, and newly illustrated. New York: George P. Putnam, 155 Broadway. London: Longman, Brown, Green, and Longmans. 1850.

4. Cottage Residences; or, a Series of Designs for Rural Cottages and Cottage Villas, with their Gardens and Grounds, adapted to North America. Illustrated with numerous engravings. Fourth edition—revised and improved. New York and London: Wiley and Putnam. 1847.
5. A new edition of the same, with additional matter and new illustrations. New York: John Wiley, 18 Park Place.
6. The Architecture of Country Houses; including Designs for Cottages, Farm-Houses, and Villas. Part I.—Cheap Cottages and Farm-Houses, adapted to the United States. Illustrated with numerous engravings. Part II.—Villas, Interiors, and Furniture. New York: D. Appleton and Co., 200 Broadway. Philadelphia: George S. Appleton, 164 Chestnut-street. 1851.
7. The Horticulturist, and Journal of Rural Art and Rural Taste. Devoted to Gardening, Rural Architecture, Botany, Pomology, Entomology, Rural Economy, etc. Vol. I., July, 1846, and continued to the present time. Albany: published by Luther Tucker.
8. Hints to Young Architects; together with a Model Specification, involving much instructive matter calculated to facilitate their practical operations. By George Wightwick, Architect. With additional Notes, and Hints to persons about building in the country, by A. J. Downing. New York: John Wiley. 1849.
9. Mrs. Loudon's Gardening for Ladies, and Companion to the Flower Garden. Edited by A. J. Downing. Numerous engravings. New York: John Wiley. 1852.

abundant food and generously distribute it, were showered upon him. Never, perhaps, in literature, has so young a man met with so sudden and extended a reputation. This is perhaps the best place to say, what is personally known to the writer, that most of the intercourse between Mr. Downing and his correspondents by letter, and in many cases by personal interview, although they were generally entire strangers, partook more of the nature of the affectionate interchanges of friendship, than of the cold civilities which usually pass on business matters between man and man. In later years, and with increasing services to the public, these testimonials to his magnetic influence did not cease: they increased. Letters came, asking for his portrait, that it might be engraved in the Horticulturist; for particulars of his daily life, for autographs. People came without introduction to see the man who had written books which had enabled them to make their houses beautiful—which had helped their wives in the flower garden, and had shown them how with little expense to decorate their humble parlors, and add a grace to the barrenness of daily life. Doubtless this will sound like exaggeration to many, but it is not such; and many are the convincing proofs of the affectionate esteem in which he was held embalmed in many minds that have come since his death like a grateful river of restoring life to those who loved him, not for what he did, but for what he was.

Modesty is the crowning ornament of a man of genius; and if modesty, manifested under extreme circumstances of flattery, be a proof of genius, certainly Mr. Downing has no slight claims to that distinction. For never was a man more sensible of his own deficiencies, so well aware of what he could do and of what he could not do, so just in his appreciation of the value of criticism, and so little liable to be moved from his equanimity by the persecuting attacks of the narrow-minded or the fulsome adulations of the weak. From whatever source acquired, whether it were inborn or the result of careful study on his part, Mr. Downing impressed every one who approached him with a sense of dignified stability, a certain ease and balance maintained under all circumstances; nothing seemed to disturb, nothing to excite him; he moved in a calmer and more unobstructed sphere than the one in which his countrymen generally dwell.

Nothing, however, would be further from the truth than the reader to suppose that there was anything in Mr. Downing's manner stiff and ungracious. He loved society, and in

his house mirth and laughter were at home, as well as lofty conversation and the serener moods of mind—

"A life that *all* the muses decked."

Not Urania nor Calliope, nor either of the sadder-eyed and darker-browed of that fair sisterhood reigned there alone, but all together made their home in that enchanted house and garden. Mr. Downing's presence was the delight of his guests. He brought no pedantry nor affectation, nor pretence in his train; but when amid his friends, assisted by her whose living virtues it were a profanation to bring before the public eye as they deserve, he seemed to forget himself, his comfort and his pleasures, in providing all beneath his roof with what could make their hours glide gladliest by.

"And so he bore without abuse
The grand, old name of gentleman,
Defamed by every charlatan,
And soiled with all ignoble use."

Mr. Downing's already extended reputation was widened, and his claims on the public gratitude increased by the publication of his "Fruits and Fruit Trees of America," the completest and most practical work on the subject which has, as yet, been given to the press. Years have tested its value; yet admirable as it was, and great as was the service it had rendered in extending a knowledge of our possessions and resources, Mr. Downing felt that it was still incomplete, and was meditating a new and greatly enlarged edition which should have been a standard work in that department for many years to come.

Moreover, he was preparing another work on a subject nearly related to the foregoing, and for which he had already laid up a great store of notes—"The Shade Trees of the United States," which we cannot doubt would have been of incalculable value, and added greatly to his already far-spread fame.

Mr. Downing was also very much interested in the establishment of a State Agricultural School, and was made one of a committee to draw up a Report on the subject, the result of which was a document recommending the founding of a school on a wider and more practical basis than that of any other agricultural school in existence, clearly setting forth our needs in this respect, and the great distance at which we are behind Great Britain and many Continental nations with regard to

agricultural information. We do not know how much of this admirable Report was written by Mr. Downing. We recognize in it, however, the substance of what we have elsewhere read in articles from his pen, and much also that we have heard from him, in conversation on the subject.* He also urgently recommended, both with his pen and by personal influence, the establishment of an Agricultural Bureau at Washington, and earnestly endeavored to hasten the time when all the statistics relating to this and kindred pursuits should be diligently collected, compared, and recorded for the benefit of future generations.

Mr. Downing published several other volumes on subjects relating to his profession. But it is chiefly by his works on Country Houses and Landscape Gardening, together with his monthly papers in the Horticulturist, that he owes his widespread fame.

The influence of such a journal as the Horticulturist, conducted as it was by Mr. Downing, is more widely extended than that of almost any book can be, for it reaches many, especially in our Western cities and towns, and sometimes in the prairie log-hut, who seldom or never see a bookstore, and whose only chance for procuring books is from pedlers, whose stock must necessarily be limited, and is generally unsuited to the wants of the better class of men. Hence it was that the Horticulturist, laden with its monthly store of practical common sense, rich with words of prudent counsel and filled with thoughts of beauty and suggestions of means to make home happier and life more lovely, was a priceless treasure to many who had no other book; and not to these alone, but to many who had all that wealth can give, but who feel the need of counsel which their more learned treatises often could not supply.

Nor was it strange that men who loved the book and valued it should come to love and value the man whose voice came to them month by month, and never without making them wiser and happier than it found them. Into this monthly work, as into everything he touched, Mr. Downing threw himself with ardor; and though amid his many avocations it was often a tax for him to prepare a number with perfect satisfac-

* If Mr. Downing *was* the author of the Report in question, we would suggest that it be rescued from the oblivion which is the fate of all pamphlets, and be incorporated into a future edition of some one of his works. It is clearly and fully written, and presents a most admirable plan for the establishment of an Agricultural School.

tion to himself, yet we believe that no one would have suspected, in looking over its well-filled pages, that the Editor had a hundred other demands upon his time—all various, all demanding skill and labor, and all equally important with the editing his monthly Journal. Mr. Downing was not only industrious—he was exact in his arrangements, and he never procrastinated. Not only to his rare genius, but to his rare fidelity to his engagements, and to the zeal with which he embraced every pursuit that demanded his attention, are we to ascribe his accomplishing so much in so short a life. Yet had he lived there were vast and splendid plans to have been carried out which would have set his name far higher than the years in which he lived and worked have placed it. For Mr. Downing's life was not the chance accretion of fortunate circumstances; he was no merely "lucky" man to whom Fortune had been kind though he was undeserving, but he was slowly elaborating, step by step, the life which from his youth he had determined to lead, and he accepted the gifts of fame and fortune with the equanimity of one receiving justice and not favor.

About two years ago, Mr. Downing received from the President an invitation to lay out and superintend the public grounds at Washington adjoining the Capitol, President's House and the Smithsonian Institute, which it had been determined to convert into a Park, Promenade, and Botanic Garden for the use and pleasure of the people. The idea of public parks and walks for the use of the citizens of every large city and town had long been a favorite one with Mr. Downing, and he gladly accepted this great undertaking, with the determination to make it worthy of the nation which he had always been glad to serve. Fortunately for us, the plans for the entire laying out of the grounds were completed before his death, and the work itself in a forward state of preparation. One portion of the plan, the laying out of Lafayette Square, was completed with the exception of the iron railing, the design for which, an ingenious adaptation of the Indian Corn, was to have been forwarded to him, drawn at large and in detail, from his architectural office while he was in Washington, whither he was going when he died. It was Mr. Downing's opinion that the City of Washington, laid out with skill and with due regard to all the effects which may be produced by taking advantage of its fortunate situation, might be made as magnificent in its views and surroundings as any city in Europe. That his plans will in the highest degree conduce to such a result, if

duly carried out by his successor, there can be no doubt in the mind of any one who has seen them on paper and has thoroughly appreciated the thought and study which his brilliant intellect and intuitive sense of what is beautiful, lavished on the design.

In drawing this all-imperfect sketch to a close, it would be impossible to forget that Mr. Downing was, in the highest sense of the word, a patriotic American citizen. He had travelled in England and on the Continent, having gone abroad to add to his stock of professional information, and he had been warmly and enthusiastically received.

When in England, he made the acquaintance not only of the leading men among the untitled classes, but he was the courted and welcome guest of some of England's best and most honored noblemen. This was not the effect of his reputation in this country, sounded like a trumpet before him by his own vanity or that of his friends—such things avail but little in a country where nothing is warmly received till it has been thoroughly tested; no, it was the same magnetic influence of which we have before spoken, and which he always carried with him, added to his elegant and unassuming manners and the evidence of undoubted genius which his conversation gave, that opened doors for him everywhere, and made room and welcome for him in those places, proverbially difficult of access, English hearts. Yet amid all these attentions he remained ever true to the best interests of his country, and lost no opportunity of defending her from unjust attacks or from the spleen of petty detractors, nor did he ever ape the manners of the great or strive to make himself a copy of any thing he saw abroad, because he found it there; but ever, as was his wont, assimilating to himself all that he found good and praiseworthy in others, he never forgot, what it was his pride to remember, that he was born an American citizen, and that his first and best services were due to his country, the nurse of his honorable life and the glad rewarder of his toils. He knew that he was not working for an unworthy people; he foresaw, as all who think may foresee, the future glories of his land. On this theme he was ever eloquent, and he loved to anticipate the day, which he knew his eyes would never behold, when America shall stretch her vast domain of peace and prosperous plenty from sea to sea; when her great mountain chains shall be no longer barriers, but pierced and overleaped by a hundred roads, shall aid her mighty rivers in the glad duties of her active and generous life; when her great central valley, protected by the

Alleghanies from the searching winds of the Atlantic, and by the Rocky Mountains from the enervating breezes borne over the Pacific from the Asian shores, shall feed a nation of men in its abundant fields and send a host of ships down the Mississippi laden with her superfluous bread to feed the world; when a great material success shall animate all classes with the zeal which always follows in the van of Fortune, and when our people, not merely great in outward show, shall be elevated by lofty ideas of religious duty, while over all our land the glorious light of liberty shall shine,

> "And knowledge liberate her; nor only here,
> But ever following those two crowned twins,
> Commerce and Conquest, shower the fiery grain
> Of Freedom broadcast, over all that orbs
> Between the northern and the southern morn."

On the 28th day of July, 1852, Mr. Downing, accompanied by his wife and mother-in-law, Mrs. De Windt, with her youngest son and daughter, left Newburg for New York in the steamboat Henry Clay. The whole party was on its way to Newport, but Mr. Downing was to have gone to Boston and thence to Washington on his monthly visit for the purpose of superintending the Public Park. As must be well known to all who read the daily prints, the boat took fire when about sixteen miles from New York, and Mr. Downing, with Mrs. De Windt and nearly a hundred others, were drowned. Only a few days before his death, Mr. Downing had told the writer that in his boyhood he had often swam across the Hudson River to Fishkill Landing and back again, and that he had no doubt he still could perform the same feat. There is but little question therefore that he lost his life in the attempt to save others, and the last time he was seen alive he was perfectly calm and self-possessed, giving directions to a young woman as to how she should support herself in the water until she could be picked up or float ashore. The girl was saved, but her gallant preserver sank at a little distance from her, and before her eyes.*

The day was lovely beyond compare; the earth a wealth of summer, teeming with fragrance, joyful with the smell of recent showers and with the songs of birds. Above, the sky stretched in unclouded blue, the distant hills were veiled in their airy films of smoke, presenting in their shadowy loveli-

* It is a little singular that Mr. Downing's expressed wish had often been that his death might be sudden, and that he might be drowned, believing that the easiest mode of dying.

ness no unmeet picture of "the unimaginable realms of fairy."

> "The air was calm, and on the level brine,
> Sleek Panope with all her sisters played."

Well do we remember the last time we ever saw our friend alive, as he came into the office to bid us good-bye and departed with his fine face clad in smiles of glad anticipation, leaving us regretful that for two weeks we should be without the pleasure of his daily presence. Well do we remember when we saw him next; stretched, a pallid corpse, before us, snatched from "the remorseless wave" that had deprived us of the blessing of his lovely life and converse. Alas! no longer buoyant, no longer smiling, but in the large eyes and sad, stern mouth, the visible tokens of a bitter and abiding struggle.

As we sat in that fearful tiring room and made ourselves familiar with the countenance of death, what wonder if the dire burden of fate and the mystery of doubt weighed heavy on our souls, and surrounded life with unnatural gloom! What wonder if the fearful night that followed that sad return; a night when the heavens were rent with thunder and the white lightning made night hideous; when the dreary wind went moaning and crying up and down as if wailing for some one lost and never to be found; a night when the stars showed like angry eyes of revengeful fates, glaring at us from behind the black and drifting clouds, and the moon in crescent seemed like a fiery sword suspended over head as a sign of eternal war between heaven and earth, what wonder if such a night seemed to us, "drunk with loss," as the fittest lamentation for such a life cut short by the accursed shears of fate! Yet such thoughts bring no peace, nor are they guests of temperate minds. The morning came, and with it the renewed tranquillity of the summer day. We followed to the grave, from that ideal garden, the body of its master; nor was it wholly superstition that the trees he loved bent down in sorrow, and the flowers drooped in grief for the loss of him who had loved them, and had taught so many of his fellow-men to love them too.

> "Ye valleys low, where the mild whispers use
> Of shades, and wanton winds, and gushing brooks
> On whose fresh lap the swart-star sparely looks,
> Throw hither all your quaint enamell'd eyes
> That on the green turf suck the honied showers,
> And purple all the ground with vernal flowers.
> Bring the rathe primrose that forsaken dies,
> The tufted crow-toe, and pale jessamine,
> The white pink, and the pansy freak'd with jet,

The glowing violet,
The musk rose and the well attir'd woodbine,
With cowslips wan that hang the pensive head,
And every flower that sad embroidery wears:
Bid amarantus all his beauty shed,
And daffodillies fill their cups with tears
To strow the laureate herse where Lycid lies."

And though the days that pass since he has gone cannot make the loss lighter nor the sorrow easier to bear, yet we listen with gladness to the teaching of faith, that He who taketh away taketh to himself, and out of the depths of despair there comes the prayerful cry—

"Forgive my grief for one removed,
Thy creature whom I found so fair;
I trust he lives in Thee, and there
I find him worthier to be loved."

BRITISH AND AMERICAN ASSOCIATIONS FOR THE ADVANCEMENT OF SCIENCE.

Both Great Britain and America possess an Association, founded for the express purpose of improving the familiar knowledge of scientific problems. The American institution is a namesake of its English progenitor. The latter is in full vigor, enlisting the aid of the first intellects of Europe; and its proceedings have attracted a high degree of attention, as its decisions are always respected. The "British Association for the Advancement of Science" was founded in September, 1831, under the auspices of the Yorkshire Philosophical Society. Its meetings since that period have been annual, and have been held in each of the three countries composing the United Kingdom. The great English Universities have since received its members—Oxford, in 1832 and 1847; Cambridge, in 1833 and 1845. The seaports in Liverpool, Bristol and Plymouth; the manufacturing towns of Manchester, Birmingham and Newcastle; the Scottish metropolis and the chief towns of Ireland have each in turn been visited. The last meeting was held in the city of Belfast during the month just gone by. Seven departments of scientific inquiry were designated for the consideration of separate bodies. Mathematics, chemistry, geology, zoology and botany, geography and ethnology, statis-

tics, and mechanical science, constituted the divisions of this meeting. The results of the investigations which had been prosecuted during the year were duly laid before these bodies, each in its peculiar sphere, and the whole in combination is united for publication under the auspices of the Association. The leading members in attendance upon the recent gathering were Sir David Brewster, Sir Roderick Murchison, Sir Henry de la Beche, the Earl of Enniskillen, the Archbishop of Dublin, Colonel Sabine, the President for the year, and other equally prominent names. In the list of Presidents of the Association, Science rejoices to see names of the highest rank, because it is an indication that the interests of scholarly research are beginning to receive due appreciation by those of elevated rank and influence. The Duke of Northumberland, the Marquises of Lansdowne, Northampton, Burlington and Breadalbane, the Earl of Rosse, Viscount Milton, and Lord Francis Egerton, now Earl of Ellesmere, have been among the presiding officers of the body. Could American statesmen be induced to bestow an equal degree of care and attention upon the interests of scientific research in the United States, or would they seek to encourage that research by more liberal public provision, the example of Great Britain would scarcely remain the sole copy that we may safely rely upon. Our own resources are yet unexplored, and more than a single "expedition" will be needed to develop the latent riches of the earth and sea in this growing Western World.

The inaugural address of the President, Colonel Sabine, discusses this question of the propriety of support from the government in a very clear and logical manner. We quote:

"In this happy country, in which men are free to consider and to discuss the propriety of public support being given to undertakings conducive to national honor, and are encouraged to do so by the experience that public men of all parties who succeed each other in administration seek to be guided by enlightened public opinion, we may justly entertain the full conviction that measures which from their intrinsic importance deserve to be adopted will, sooner or later, obtain the consideration they merit. When such propositions are brought in the first instance—as in the class of subjects with which we are here concerned it is desirable they should be—before those public bodies which are justly regarded as possessing the highest scientific authority in this country, and as most competent to judge of them, they cannot be too carefully considered and discussed, before by their adoption they become invested with the authority and weight which those bodies have it in their power to impart. But when after due deliberation they have been so adopted, it is equally fitting that these public bodies should be true to their own convictions, and should steadily persevere in urging on all proper occasions, both publicly and privately, the measures which they believe will add to their country's honor as well as to that general advancement of science by which all nations benefit, freely and alike, in proportion to their degree of mental cultivation."

METEOROLOGY.

Another and somewhat larger extract we are tempted to take from this comprehensive and eloquent address of the President, especially as it intimately concerns a project which has been a favorite theme with the scientific men of our own country, viz., Meteorological observations on sea and land, and critical investigations of the Tides and Currents of the Ocean. The labors of Lieutenant Matthew F. Maury, Superintendent of the National Observatory at Washington, have for many years been directed to the solution of the problems affecting the nature and operation of tidal currents. His results are already enhanced in value by the extreme accuracy which characterizes his observations. It has been a prominent wish of this gentleman, and of those associated with him in similar investigations, to secure the co-operation of European observers, and particularly those of England, who are so intimately connected with us by affinities of language, thought and culture. The reasoning of Colonel Sabine seems most judicious in view of the accomplishment of this end.

"Col. Sabine detailed the various steps which have been made in advance towards an efficient method of determining the figure and dimensions of the globe, and proceeded as follows: The recent researches of Capt. Beechey, which have given a new and unexpected view of the tidal movements of the ocean, show how much yet remains to be learned respecting the tides even for the practical purposes of navigation. The facts derived a few years since from the barometical observations at St. Helena, showing the existence of a lunar atmospheric tide, have been corroborated in the last year by a similar conclusion, drawn by Capt. Elliot, of the Madras Engineers, from the barometical observations at Singapore. The influence of the moon's attraction on the atmosphere produces, as might be expected, a somewhat greater effect on the barometer at Singapore, in lat. 1 deg. 19 secs., than at St. Helena, in lat. 15 deg. 57 secs. The barometer at the equator appears to stand on the average about 0 006 in. (more precisely 0.0057, in lat. 1 deg. 19 secs.) higher at the moon's culminations than when she is six hours distant from the meridian. We have received from our valued corresponding member, Prof. Dove, for presentation to this meeting, an important continuation of his researches on the temperatures at the surface of the globe. In former communications he has furnished us with maps showing, so far as observation permits, the isothermals of the whole globe in every month of the year. He has now given us, first, the normal temperatures of each parallel of latitude in each month, being the average of all the temperatures in that parallel in such month; and, second, the abnormal temperatures, or the difference between the temperature of each place and the mean temperature of its parallel. From these again are formed lines of abnormal temperature for each month, surrounding and marking out those districts and localities which, from peculiarities of the surface or other causes affecting the distribution of heat, are characterized by excessive abnormal heat or abnormal cold. The importance of these researches on the general theory of the causes which interfere with the equable distribution of the heat according to latitude is obvious. The activity which has prevailed so greatly of late, in the collection of meteorological data, has been almost exclusively confined to that portion of the surface of the globe which is occupied by land, although the portion cov-

ered by the ocean is not only much greater in extent, but is also better suited for the solution of several meteorological problems. Many striking examples might be adduced to show that it is 'systematic direction,' and not 'individual zeal' in naval men, which has been wanting, *and it has been therefore with great satisfaction that meteorologists have learned that a proposition has recently been made from the United States government to the British government, to undertake, conjointly and in co-operation, a system of meteorological observations, to be made at sea in all ships* belonging to the naval service of the two countries, and sufficiently simple to be participated in by the merchant service also. In a partial trial which has been already made of this system in the United States, it has been found to produce results which, exclusive of their scientific bearing, are *of great importance to the interests of navigation and commerce, in materially shortening passages* by the knowledge of prevailing winds and currents at particular seasons. The practical advantages arising from the co-ordination of the observations in the Hydrographic-office of the United States, and the circulation of the charts of the winds and currents, and the sailing directions founded on them, have been such and so appreciated, that there are now, as it is stated, more than 1,000 masters of American ships engaged in making them. *The request for British co-operation in an undertaking so honorable to the country in which it originated,* was referred in the spring of this year by the Earl of Malmesbury to the President and Council of the Royal Society for a report; from which I permit myself to quote the concluding sentence, in the persuasion that it would find an echo, if necessary, in every part of the United Kingdon, and that it cannot fail to be promptly acted upon by the government of a country in which maritime interests hold so prominent a place: 'To the government of this country the demand for co-operation and for the interchange of observations is most earnestly addressed by the government of the United States; and the President and Council of the Royal Society express their hope that it will not be addressed in vain. We possess in our ships of war, in our packet service, and in our vast commercial navy, better means for making such observations, and a greater interest in the results to which they lead, than by any other nation; for this purpose every ship which is under the control of the Admiralty should be furnished with instruments properly constructed and compared, and with instructions for using them; similar instructions for making and recording observations, as far as their means will allow, should be given to every ship that sails, with a request that they will transmit the results to the Hydrographer's office of the Admiralty, where an adequate staff of officers or others should be provided for their prompt examination, and the publication of the improved charts and sailing directions to which they would lead; above all, it seems desirable to establish a prompt communication with the Hydrographer's office of the United States, so that the united labors of the two greatest naval and commercial nations of the world may be combined, with the least practical delay, in promoting the interests of navigation.' Amongst the most valuable results which the physical sciences may expect to obtain from this extensive system of nautical observation, we may reckon *the construction of charts of the isothermals of the surface of the ocean corresponding to every month in the year,* similar to Dove's Monthly Isothermals of the Temperature of the Air; and a knowledge of the normal condition as well as the abnormal variations, with their special causes and effects, of the great Gulf-Stream which connects the shores of the Old and New World, and in its normal effects is influential in many ways on *the climate of the United States and Western Europe,* while its abnormal effects are principally known, so far as we are yet aware, by the peculiarities of climate they occasionally produce on the European side of the Atlantic. Of the extent, depth, and limits of this remarkable current in ordinary and extraordinary years, we are, as yet, very imperfectly informed. Of the zoology of the great tracts of ocean which are covered by its banks of seaweed, we know nothing beyond the fact that they are the habitation of a countless number of oceanic animals, giving rise possibly to deposits which may have distinctive characters from littoral deposits or from those of marine estuaries. But, doubtless, we can now estimate only a very small part of the advantages which terrestrial physics as well as hydrography and

navigation would derive from the concurrent exertions of the two great maritime nations in the way that has been pointed out. The analogy of the configuration of the land and sea on the north of the continents of Asia and America, has for some time past caused an opinion to be entertained that the sea on the north of the Parry Islands might be as open as it is known to be throughout the year in the same latitude on the north of the Siberian Islands. The expectation that Wellington Strait might, as the continuation of Barrow's Strait, prove a channel of communication from the Atlantic into that part of the Polar Ocean, has been considerably strengthened in the last year by the discoveries which we owe to the hardihood and intrepidity of our merchant seamen. The access to the Polar Ocean and the degree in which it may be navigable for purposes of discovery or of scientific research are amongst the few geographical problems of high interest which remain to be solved; and we may confidently look for a solution, in the direction at least which has been adverted to, by the expedition which has been despatched under Sir Edward Belcher to follow up the discovered traces of Sir John Franklin's vessels."

ARCHÆOLOGY.

The Archæological Institute of Great Britain and Ireland this year held its annual meeting in Newcastle. This society was established in the year 1845, for the cultivation of antiquarian and historical lore, and has already visited, in succession, the cities of Winchester, York, Norwich, Lincoln, Salisbury, Oxford and Bristol. The archæological records and movements of the districts in which these large towns are located have been by this means carefully explored and preserved. The presiding officer of the late meeting at Newcastle, Lord Talbot de Malahide, following the example of others before him, took the occasion of the opening address to consider the position to be assumed by governments towards the promotion of scientific and literary pursuits.

The most remarkable feature of the Convention was the opening of the Museum. It consists of a collection of curious antiquities, sent for exhibition by the members of the Institute and their friends. The specimens of Celtic and Roman-Celtic, and other early antiquities, are stated to have been particularly rich and various. In the course of the session of the Institute, several interesting papers were presented, among which was one on the "Archæology of the Coal Trade," by Mr. J. J. Taylor. Mr. Taylor remarked that there was no evidence of coal having been systematically worked in Britian by the Romans, but Roman coins have been found in heaps of cinders, turned up at Brierly, and other places in the West Riding of Yorkshire, so that the presumption of the acquaintance of the Conqueror with the properties of the material was not insufficient to preclude its occasional employment.

In the year 852, amongst payments made to the Abbot of

Peterborough, ten cartloads of coal are enumerated, but the use of the material continued to be very partial for several centuries. In 1140 the laws of King David of Scotland, made at Newcastle, which was then in his possession, made mention of the use of peat, turf, and wood, as fuel, but not of that of coal. In 1239, Henry III. granted a charter to the burgesses of Newcastle to seek for coal. In 1189 the Liege mines are said to have been discovered, so that no very wide interval separated its discovery at Liege and at Newcastle. This epoch may in fact be regarded as the beginning of modern industry. The coal trade continued to increase till the beginning of the fourteenth century, as other fuel became more scarce, until so much of it was consumed that in 1305 the nobles and commons in Parliament complained of the burning of coal as a public nuisance, which corrupted the air by its smoke. At the coronation of King Edward II., it is recorded that ten shillings worth of it was used. Staiths, for the shelter of the coal from the weather, appeared to have originated about 1350. In 1351 Edward III. granted a charter to the citizens of Newcastle to seek for coal in the fields out of the town, and in a few years afterwards coal fields were worked north, south, and west of Newcastle. The machinery, as may be imagined, was sufficiently simple and rude in its construction, as a number of diagrams, illustrative of the coal mines and coal workings of those times, clearly showed. The coal was taken away from the mines on the backs of horses, as was still the case at some small collieries in remote districts, which realized the idea of the earliest collieries. From the pipe-rolls of Edward III., it appeared that 786 chaldrons of coal were purchased for consignment to the clerk of the works at Windsor Castle. The price was then 17d. a chaldron, of which there were 20 or 21 to a keel, so that a chaldron must have amounted to a ton, or 21 cwts. This being the case, it followed that coals were relatively cheaper now than at the period mentioned. Corn had increased in price in the ratio of 9 to 1, butcher's meat in that of 8 to 1, labor as 9 to 1, and coals as 5 to 1 only. The freight to London was 15d. a chaldron, and the price there 4s. 11d. a chaldron. In 1395, it appeared from the Whitby Abbey records that 13s. 4d. was paid to a Sunderland coal-trader for four chaldrons of coals. In the fourteenth century, we find the first mention of duties on coals. In 1379, a tax of 6d. a ton was imposed on coal for the defence of Scarborough Harbor, and from the fourteenth century to the nineteenth, coal had never been free from one tax or another. In 1570, Harrison mentions

coal as having found its way into the parlors of the great merchants, its use having formerly been confined to smithies and the like. In the sixteenth century, coals at Newcastle rose from 2s. 6d. to 6s. and 9s. a chaldron; wheat, which in 1560 was 6s. 8d., rose in 1610 to 34s. a quarter—results ascribable to the diffusion of the produce of the American mines. In 1600, Elizabeth incorporated the Society of Pitmen, which had existed as a guild or fraternity in Newcastle from time immemorial. In 1619, the first attempt was made to smelt iron with coal. It had been calculated that a ton of coal yielded an amount of fuel equal to the produce of three acres of growing wood; 9,000,000 tons of coal, therefore, are equivalent to 27,000,000 acres of growing wood—so that half the surface of our island would be required to grow the wood requisite to find fuel for the consumption of the iron trade alone. In 1617, only 1,375 tons of coal were shipped from the port of Newcastle. Having traced the facts connected with the growth of the coal trade and the improvement of machinery in mines down to our times, Mr. Taylor concluded by estimating the total amount of coal produce in Great Britain at 39,400,000 tons annually. The foreign export was about 3,800,000 tons. The vend from Newcastle and Sunderland, 8,000,000.

COAL-MINE EXPLOSIONS.

In close connection with the subject last mentioned, another claims attention, not less important in its history, and of much more interest to the proprietors and workers of coal-veins. The frequency of explosions in coal-mines, attended by serious disasters to life and property, has attracted the general notice of persons interested in such matters, and has been made the subject of three distinct investigations by Committees of the British Parliament. The years 1835, 1849, and 1852, are marked as milestones in the path of this class of investigations. Still no results of a permanent character have followed. The evil in question goes unchecked, and a Parliamentary return states the average loss of life, per annum, at one thousand. This great proportion of coal-mine calamities is found to be due mainly to the insufficient ventilation of the pit, and in no small measure to the degree of confidence reposed by the miner in the virtue of the "safety-lamp" of Sir Humphrey Davy—a confidence which is now seen to have been misplaced and undue, and which is calculated to produce the very class of disasters which it was intended to obviate. The want of ven-

tilation, however, is pretty clearly traceable as the moving cause of the calamities which the community is called so frequently to deplore. A better system of draft and expulsion of mephitic vapors will do much towards renovating the health of miners, and prevent the constant occurrence of these accidents. Where there is an absence of foul air, there can be no danger of an explosion. And the evil is not altogether unlikely to become prevalent in the mines of the United States. The adoption of suitable plans for thorough ventilation by proprietaries here, will save the chronicler the trouble and regrets of recording untold numbers of catastrophes.

ASTRONOMY—NEW PLANETS.

Mr. J. R. Hind, of Bishop's Observatory, Regent's Park, is a very Columbus at discovering new worlds. Unlike the great Genoese, however, he takes the air for his dominion, and peoples it with planet upon planet, which no mortal eye has hitherto discovered, and no astronomer has ventured to call by name. In the space of half a decade, this ardent explorer of the heavens has enriched our astronomical vocabulary with *six planets* hitherto unnamed and undiscovered. His last exploit is recorded for the 22d August, 1852. The completion of the even number indicates, as Mr. Hind very truly remarks, "that the members of the planetary system must be far more numerous than was formerly supposed." The new planet is readily discovered in the Constellation Aquarius, with a telescope of very moderate power. In brightness, it equals a star of the ninth magnitude, and possesses a yellowish tinge, similar to that which characterizes Pallas, Melpomene, and others of the same group. At 11° 35′ 38″, Greenwich mean time, its right ascension was 22° 22′ 29·7″; and its north polar distance 97° 32′ 14″; the diurnal motion in right ascension is 53″ towards the west, and in north polar distance about 5′ towards the south.

In order to obtain a convenient means of reference, we have prepared a table of the latest discoveries of planets, including the most recent of those observed by Mr. Hind, as follows:

Planets.	Discovered	By	At
1. Ceres	January 1, 1801	Piazzi	Palermo.
2. Pallas	March 28, 1802	Olbers	Bremen.
3. Juno	September 1, 1804	Harding	Lilienthal.
4. Vesta	March 29, 1807	Olbers	Bremen.
5. Astræa	December 8, 1845	Hencke	Driessen.
6. Hebe	July 1, 1847	Hencke	Driessen.
7. Iris	August 13, 1847	Hind	London.

8. Flora.....	October 18, 1847	Hind	London.
9. Metis.....	April 25, 1848	Graham	Markree.
10. Hygeia.....	April 12, 1849	Gasparis	Naples.
11. Parthenope ...	May 13, 1850	Gasparis	Naples.
12. Victoria	September 13, 1850	Hind	London.
13. Egeria.....	November 2, 1850	Gasparis	Naples.
14. Irene	May 20, 1851	Hind	London.
15. Eunonia.....	July 29, 1851	Gasparis	Naples.
16. Psyche.....	March 17, 1852	Gasparis	Naples.
17. Thetis.....	April 17, 1852	Luther	Germany.
18. Melpomene ...	June 24, 1852	Hind	London.
19. Unnamed.....	August 22, 1852	Hind	London.

The attention of the Academy of Sciences of Paris has just been called to the phenomena of the falling stars—a subject of inquiry little understood and very wonderful. A French *savan*, M. Coulvier Gravier, has made those stars the object of special study for a number of years, and has communicated his results to the Paris Academy. He reports that, during the night of the 18th June last, only five of the meteors appeared within one hour; on the 10th of July he saw seven per hour; on the 13th of July, ten per hour; on the 21st of July, fifteen; on the 2d of August, thirty-four per hour; on the 6th of August, forty-six; on the 10th of August, sixty-three, the greatest number; on the 13th of August he counted but forty-three per hour. These numbers mark this year as an average year only. An observer in Brussels, M. Quetelet, noted in one hour on the night of the 10th of August sixty-four of the meteors, which appeared all to issue from the same quarter of the heavens.

The London journals teem with elaborate notices of a new astronomical telescope, of remarkable powers, which has just been completed for the Rev. Mr. Craig, Rector of Leamington, and is claimed to possess many advantages not hitherto attained. One-half the qualities ascribed to it, if substantiated in practice, will cause this instrument to rank among the most wonderful improvements of the day. It is represented as perfectly achromatic, and as capable of separating minute points of light so distinctly as to render it invaluable for purposes of discovery. It resolves the Milky Way into regular constellations, and exhibits Saturn of a milk-like whiteness. Of the moon, no opportunity for observation had yet occurred. The site for the telescope, consisting of two acres, has been presented by Earl Spencer, in perpetuity, and all needful precautions have been adopted to preserve the instrument from harm. The central tower upon which it is supported is of brick, sixty-four feet in height, fifteen feet in diameter, and weighs 220

tons. The main tube of the telescope is shaped like a cigar, and is seventy-six feet in length, having an eye-piece at the narrow end, and a dew-cap at the other; the total length in use will be eighty-five feet. The design of the dew-cap is to prevent obscuration by the condensation of moisture, which takes place during the night, when the instrument is most in use. Its exterior is of bright metal, the interior is painted black. The focal distance will vary from seventy-six to eighty-five feet. The tube at its greatest circumference measures thirteen feet, and this part is about twenty-four feet from the object-glass. The determination of this point was the result of repeated experiments, and minute and careful calculations. The London *Globe* adds:

"The tube rests upon a light wooden framework with iron wheels attached, and is fitted to a circular iron railway at a distance of fifty-two feet from the centre of the tower. The chain by which it is lowered is capable of sustaining a weight of fifteen tons, though the weight of the tube is only three. Notwithstanding the immense size of the instrument, it can move either in the azimuth, or up to an altitude of eighty degrees, with as much ease and rapidity as an ordinary telescope, and, from the nature of the mechanical arrangements, with far greater certainty as to results. The slightest force applied to the wheel on the iron rail causes the instrument to move round the central tower, and there cannot be the slightest flexure in the tube. With respect to the magnifying power of this instrument, it is only necessary to state that it has already separated the nebulæ in the same way as Lord Rosse's. It has also separated some of the double stars in the Great Bear, and shown distinctly a clear distance between them, with several other stars occupying the intervening space. Ordinary readers will better understand the extraordinary magnifying power of the telescope when we inform them, that by it a quarter-inch letter can be read at the distance of half-a-mile."

Accuracy in the operation of time-keepers is an essential element in the construction of those convenient tools of every-day usage. Greenwich has hitherto been the model, *par excellence*, of the chronomatrist, and the United States depends greatly upon the same test of reliability. Electricity has been subdued to no more useful purpose than that of recording the lapse of time. We notice that late extensive experiments on this subject have been finally crowned with remarkable success. In the west of England a movement has been made to obtain a uniformity with Greenwich time, and electricity is largely employed to effect the desired degree of accuracy; the town of Exeter having taken the lead in securing for herself the advantages of a true dial. In this country different observatories have employed an apparatus for recording astronomical results, which is necessarily accurate to a fraction of a second of time, and which, in operation, is very simple and beautiful. Those who may have noticed the dispute between Professor O. M. Mitchel and some of his professional brethren, regarding

his new method of recording north polar distances and right ascensions by an apparatus of his own contrivance, will remember the interest that attached to that controversy, and will gladly welcome any indications of the spread of the improvements which his efforts have auspiciously inaugurated.

THE ELECTRIC TELEGRAPH.

The network of wires which constitute the *modus* of that remarkable agent, the electric telegraph, is spreading over all lands, oriental and occidental. Creeping gradually out towards the Pacific shore of the Union, and soon destined to connect, with a band of instantaneous sympathy, the representative cities of American enterprise, San Francisco and New York, it will be met by the reverse tide of electrical influence flaring from west to east. Late advices inform us that a magnificent system of communications by means of the telegraph is in contemplation by the East India Company, for the rich and extensive Hindostanese Peninsula. Dr. O'Shaughnessy, of the Medical Staff, is just completing a series of investigations as to the best forms of wires and poles, and the project has taken air in such shape that its early completion may speedily be looked for. From Calcutta the wires are to traverse Bengal, following the course of the Ganges, through the suburbs of Benares to Allahabad; thence to Agra, the ancient capital of the Mogul Empire; thence north-westerly through Delhi to Lahore. Transverse lines from the banks of the Hoogley to the Coromandel coast, stretching across the Carnatic, and issuing on the shores of the Red Sea, are in contemplation in connection with this enterprise. The line will extend some three thousand miles. The service of the electric telegraph has been for some time completely organized and at work during the whole line from Paris to Strasburg. This new line is connected at Kehl with that of the Grand Duchy of Baden, which, in its turn, joins the general network of German lines at Burschal, so that now the telegraphic dispatches, not only from the north of France, but from a part of Belgium and all England, for the centre and south of Germany, as well as for Italy, need no longer pass by the Austro-German lines, but by Strasburg, which is the most direct and the shortest route.

The Turin correspondence of the *Gazette de Savoie* refers to a great scheme of submarine telegraph extension. The lines at Charing-Cross are already connected with the French lines to Lyons, whence the corresponding wires will soon enable

them to reach—by way of Chamberry—Turin and Genoa on the Mediterranean. From this latter point it is proposed that the Sardinian Government should lay down a line to Spezzia, whence the Submarine Company would carry it under water to the little island of Gorgona and across it, and then again under water to Bastia. The French Government will then take up the work, carrying the lines to Corsica, whence a gutta percha tube will be laid to Cagliari. From Sicily to the African coast is supposed to be a practicable distance; and Sig. Bonelli proposes to make Tunis a great telegraphic station, whence France would carry a system of wires to Bougie and Algiers, and England another system to Tripolis, Alexandria, Cairo, and Suez.

ELECTRICITY.

A new application of science is the deposit of metals by electricity. An ironmonger in England has lately produced excellent specimens of electrotyped cast-iron, by a process which invests the metal with the beauty of rich antique bronze. For articles of ornament, this invention promises to be useful and very popular.

PHOTOGRAPHY.

An interesting correspondence has lately passed between the President of the Royal Society, (Lord Rosse,) the President of the Royal Academy, (Sir C. Eastlake,) and Mr. H. F. Talbot, the inventor and patentee of the art of photography on paper. Lord Rosse and Sir C. Eastlake having urged that some relaxation of the patent right of this invention, now extensively practised on the continent, would be of invaluable service to art and science, Mr. Talbot has generously made a free present to the public of all his patents for improvements in this art, only reserving to himself the application of the invention to taking photographic portraits for sale to the public.

OBSERVATIONS AND DISCOVERIES.

A scientific balloon ascent, planned by the Kew Committee of the Council of the British Association, took place during the recent session of that dignified body at Belfast. The ascent was made for the purpose of carrying up the registrar of meteorological observations to new and untrodden fields of investigation. Mr. John Welsh of Kew Observatory, one of the aerial observers, makes the following statement of results:

The main object contemplated by the projectors of these ærostatic expeditions is the determination of the laws of change in the temperature and humidity as we rise in the atmosphere. Other experiments and observations are not lost sight of; but it is proposed to attempt at first only what it is probable can be satisfactorily executed. Such subjects as atmospheric electricity and (less probably) magnetism may be taken up when the observers shall have become familiarized with their work.

The weather on Tuesday, the day fixed for the first ascent, was as good as could be hoped for in the midst of so much variety as we have lately had. The inflation of Mr. Green's great Nassau balloon having been accomplished, from the Vauxhall Gasworks, the ascent took place about ten minutes before four, P.M., with wonderfully few instrumental casualties, considering the great oscillation of the car previous to starting, from the action of the wind on the balloon. It rose steadily, and continued rising until about thirteen minutes before five, P.M.; when the barometer indicated that it was about 19,500 feet above the earth; the temperature, which was about 72 deg. at Vauxhall, having fallen to 7 deg., or through 65 deg. of Fahrenheit's scale. From the earth the sky seemed about three-quarters covered with clouds; the lowest stratum being composed of detached masses of *cumulus*—an intermediate stratum of higher *cumuli*—and *cirrostratus* and *cirrocumuli* above all. The first stratum of clouds was passed very soon after leaving the earth, at the height of about half a mile; the second seemed about two and a half miles; but the highest cirrostratus clouds were still above at the greatest elevation, although apparently not very far. Near the highest point of our course, small star-shaped crystals of snow of perhaps one-twenty-fifth or one-thirtieth of an inch diameter were seen falling (possibly their apparent fall was due to the rise of the balloon.) Observations of the thermometer, hygrometer, and barometer were taken at very short intervals during the ascent, and during the first portion of the descent, until it became necessary to provide for the safety of the instruments. Specimens of the air at different elevations were taken for analysis. The descent was accomplished, with much ease, at twenty-five minutes past five, P.M.; and the balloon was secured, with little trouble, near the village of Swavesey, in Cambridgeshire, about sixty miles north of London. This distance was passed over in about an hour and a half—showing that an immense mass of air was moving very rapidly from

the South. The sun was quite obscured during almost the whole period.

At the elevation attained, no personal inconvenience of any moment was experienced—the æronauts experiencing only a slight oppression about the ears and temples. Mr. Nicklin perceived, besides, a very slight difficulty in breathing before reaching the greatest height—but the feeling went quickly off, even before the descent. So slight was any inconvenience experienced from the rarity of the air, that it did not in the least interfere with the regular work of observing and recording. The cold would, of course, have become disagreeable had the party continued long in it.

The results obtained from this first attempt are, doubtless, of much value; "but we are in hopes," adds the narrator, "that, by some alterations in our mode of procedure, a greater amount of instruction may be derived from subsequent voyages."

Some interesting discoveries have recently been made at the Acropolis, through the excavations of M. Beulé, a French antiquary. The last steps of the staircase, which led to the principal entrance, of Pentilic marble, have been revealed in perfect condition. The door is *Doric*, and 12 feet in height. The wall of the citadel is also revealed, 21 feet high, showing pedestals and fragments of the Roman *epoch*, and the entablature of several Doric temples anterior to Pericles. M. Beulé has also found 23 inscriptions and a well-executed *bas relief*, representing 8 young Athenians dancing. Their Majesties have conferred on him the Order of the Saviour.

A remarkable Grotto, 800 by 70 feet, richly encrusted with stalagmites and stalactites, the work of ages, has also recently been revealed at Montecatini in Tuscany, a region long celebrated for its mineral springs. It has unexplored ramifications, and a boat has been introduced to navigate its waters.

Valuable specimens of ancient sculpture near Rome have just been brought to light through the liberality of the Princess Canino.

In the task, recently undertaken, of draining Haarlem Lake, some interesting discoveries have been made. An immense mass of human bones was found, deeply imbedded in the deposits of the Lake, and placed on the precise spot where, according to a topographic chart, laid down in 1511, which has been considered accurate, the unfortunate village of Nieuwenkirk was situated, but which, in 1539, was swallowed up by

one of those eruptions of the North Sea which formed the immense Lake.

A few days since some workmen, in making an excavation on Mr. Edwards' farm, at Ballyteskin, about two miles from Wicklow, Ireland, found part of the skeletons of three of the giant deer (*Cervus megaceros*) about six or seven feet below the surface. The head of one of them is nearly perfect, with the antlers, which measure ten feet in a line from tip to tip. If complete, they would measure about twelve feet. The "palm" of the antlers measured twenty inches vertically. In raising the skeleton the men injured the cervical vertebræ.

In the Royal Academy of Sciences in Turin, which is liberally supported at the expense of the State, agriculture forms a distinct and important branch. During the sessions of this college, lectures are delivered by the professors of this department of science twice in the week, and the most practical and enlightened men in the country have become sensible that hitherto the true principles of agriculture have been but vaguely understood, and that scientific knowledge is as necessary as manual labor to the development of the properties and resources of the earth. The academy possesses various specimens of implements of husbandry, and among them, about thirty different ploughs, a large proportion of which are the forms used in the several provinces of Piedmont, Lombardy, and Savoy—most of them of very antiquated construction.

The Chevalier Claussen has inaugurated a new era in the manufacturing arts, if his new flax-cotton performs the work it is promised to do. The manufacture of the new material is attracting attention in Ireland.

Curious developments in insect life have been made within a few weeks past by Mr. Crosse, an amateur English philosopher. The progressive theory of the development of life was put forth some years ago in that remarkable work, the "Vestiges of Creation," and the attention of the scientific and the public was directed to the arguments employed in support of the author's hypothesis. Mr. Crosse has performed some late experiments upon the same basis with wonderful results, if the tales recorded of them be true. The United States Consul at Liverpool writes regarding a visit he recently made to the house of Mr. Crosse:

"I own to utter incredulity until I had the opportunity of a thorough examination of the process and a full explanation of the means. No room was left for doubt. No delusion, no self-deception, no favorite hypothesis to be carried out, had any influence in the result. On first witnessing the result, Mr. Crosse would not

believe his own senses. He locked up his laboratory and took a long walk in the open air, to assure himself that he was not laboring under some illusion. On his return he beheld the actual living insect in various stages of its formation. The apparatus was prepared for the purpose of producing crystals from the silicate of potash.

"A tubulated retort, with its long end plunged in a glass dish of mercury, has a platina wire passing through it, connected with the negative pole of a weak galvanic battery. Through a neck in the retort, hermetically sealed, another platina wire, immersed in the caustic solution, communicates with the positive pole. The bulb of the retort is two-thirds filled with a most carefully prepared caustic solution of silex and potash. Pure black flints and caustic soda, after being subjected to a white heat, are pulverized and melted into a glass, which is soluble in distilled water. In this solution no animal life can possibly exist, nor can there in the mercury. The whole was then placed upon a shelf for constant inspection. A gelatinous substance was first observed to have formed around the bottom of the positive wire. Then No. 1 made its appearance, gradually expanding into Nos. 2 and 3, when flexible filaments were observed.

"No. 4 began to show animal life, and after one hundred and forty days watching through all its changes, the perfect living insect crawled up the wire!—not singly, but in sufficient numbers to dispel all doubt, if any could have existed, and prepared for another stage of life. Like our mosquitoes, they emerge from the element in which they are produced, and are drowned in it if they return; any unfortunate straggler that missed his hold immediately perished. The *Acarus Crossei* is now known as a distinct species."

Among the new undertakings lately brought forward is one called the Vegetable Gas Light Company. Its object is to introduce the patent of an inventor who is stated to have fully succeeded in perfecting an apparatus and concocting an oil by which gas of a much greater purity and brilliancy than that obtained from coal, can be generated in small quantities suitable for private houses, public buildings, light-houses, steamships, &c. Its cost is represented to be relatively below that of common gas, while the trouble of its preparation is less than that required for ordinary oil-lamps. For some months past the process has been in use at Eton College, the Harrow railway station, the town of Blackpool, and other places, and certificates are given of the satisfaction it has afforded.

All doubts as to the poisonous nature of the contents of the skin-pustules of the toad and salamander lizard are set at rest by recent experiments of two French philosophers, MM. Gratiolet and S. Cloez, who have demonstrated by inoculating various animals with the cutaneous poison of toads and salamanders, that the substances in question are endowed with well-marked and exceedingly dangerous qualities. The first experiment of these gentlemen was prosecuted on a little African tortoise, which having been inoculated with some of the toad-poison in one of its hinder feet, paralysis of the limb supervened, and still existed at the expiration of eight months, thus demonstrating the possibility of local poisoning by the agent. In order to determine whether the poisonous material

spoiled by keeping, the gentlemen above mentioned procured about 29 grains of the poison on the 25th of April, 1851, and having placed it aside until March 16, 1852, they inoculated a goldfinch with a little of this material. The bird almost immediately died. Subsequently the investigators succeeded in eliminating the poisonous principle from the inert matters with which it is associated in the skin-pustules, and they found that when thus purified its effects are greatly more intense than before. Like most of the known very strong organic poisons, the active principle of toad venom is alkaline in its character; almost insoluble in water, slightly soluble in ether, and very soluble in alcohol. MM. Gratiolet and S. Cloez are at this time occupied in collecting a large amount of toad venom, and will shortly make known the result of their further investigations, which are calculated, in the opinion of the investigators, to throw considerable light upon the nature and action of the poisons of hydrophobia, of serpents, of contagious diseases, and animal poisons generally.

It is a fact worthy of note that on the same day in which the severe earthquake occurred at St. Jago de Cuba, there were unusual eruptions and an earthquake at Mount Etna.

A trial of Anchors of all nations has lately taken place in the Sheerness dockyard. In consequence of the great difference of weight, amounting to 75 per cent. in favor of the Admiralty anchor, the committee suggested that Trotman's anchor should be tried against an Admiralty anchor of 35 cwt. 2 qrs. In this case, at first trial, on a long scope of cable, Trotman's was dragged by the Admiralty anchor 6 ft. 8 in., the latter dragging 6 ft. 7 1-2 in. On the second trial, at short stay, Trotman's anchor was tripped out of the ground at 25 ft. total distance from first position, holding firmly to the last foot of ground. The total distance dragged by the Admiralty anchor was 10 ft. 11 1-2 in., being a distance of 4 ft. 4 inches. The Admiralty was drawn during the second experiment. With this terminated the trial of anchors on dry land.

Pisciculture, or the artificial fecundation of Fish, is the latest French enterprise. An interesting report on this subject has been addressed by Mr. Milne Edwards to the Minister of Agriculture and Commerce. That the present Government of France is fully aware of the importance of the discovery, we have abundant proof. A committee of Pisciculture has been established in the department of the Minister of the Interior, Agriculture, and Commerce. The commission is composed of practical men, to whom are joined several of the most distin-

guished members of the Academy of Sciences. M. Persigny, Minister of the Interior, has just dispatched M. Coste, a member of the Institute, upon a domestic and foreign mission for the promotion of pisciculture. M. Coste proceeds first to Mulhause, where he will concert measures with the contractors whom he is to meet there for the construction of a large Government establishment for the artificial production of fish. For this work a sum of $5,610 has been allowed. From Mulhause M. Coste will proceed to the department of *Isere* to inspect the similar establishments existing there, and which during the last year have been under the care of Gehin, one of the two fishermen whose experiments, commenced ten years ago, and painfully and successfully prosecuted, will give him enduring fame as the introducer of practical pisciculture into France. M. Coste is then to go down the Rhone and inquire into the means of stocking that river with salmon, a fish not yet known to its waters. He is then to visit the salt-marshes of Provence, Languedoc, and Roussillon, to inquire into the feasibility of multiplying in those localities the lobster and oyster. M. Coste will repair to the shores of the Adriatic, and study there the modes used, especially among the lagoons of Comaccio, of preserving the fish which they transport to such great distances, and make matter of profitable commerce. Before returning to France M. Coste will visit the kingdom of Naples, to study the manner of propagating the oysters of Fucino, with a view to their introduction into the lagoons in the south of France.

The Academy of Fine Arts of Bologna has opened a competition for 1853 for first class prizes. Artists of all nations are admitted to it. The subject for painting is, "Saul horrified at the ghost of Samuel," to be taken from Alfieri's tragedy of Saul. The painting is to be on canvas in oil, of the height of one metre and 60 centimetres, by two metres and 25 centimetres in breadth. The subject for sculpture is, "St. Theresa, absorbed in divine love, faints away in the arms of the angels." The prize for each of these subjects is a gold medal of the value of 80 sequins (about 880f.) The subject for a drawing is: "Charon scaring away the souls, as described by Dante in the eighth canto of his Inferno." The drawing is to be 68 centimetres in height, by 90 centimetres in breadth, exclusive of the margin. The prize is 25 sequins (about 275f.). For perspective the subject is: "A vast Square, rendered irregular and picturesque by the various situations of the buildings and monuments of various ages, their preservation or state of decay; while a portion of the façade of a slpendid public palace

in the style of the thirteenth century stands in the foreground." Dimensions 68 centimetres high, 90 broad, exclusive of the margin. Prize: a medal of 20 sequins (220f.). The works of the competitors must be sent in to the secretary of the Academy on the 30th June, 1853, before sunset at the latest. The names are to be contained in a sealed cover, marked with a motto, to be repeated on the picture, &c. In another paper the artist must explain the considerations which guided him in his work. The unsuccessful articles are to be returned with the sealed covers respectively belonging to them.

One of the most desirable of the results of the Great Exhibition of 1851, is now in satisfactory development at Marlborough House, and it is perhaps impossible to overrate its value as regards the advancement of national taste. The Museum of the Department of Practical Art has been so enriched by specimens of ornamental art which the committee were enabled to select from among the contributions of various nations to the Crystal Palace, that the newly arranged series presents a perfect educational course to the eye of artist and artisan. The encouragement of right principles in decorative art, and the exposure of popular but false systems of ornamentation, are the objects of this museum; and the invaluable assistance which it offers to the cultivation of true taste is in a great measure due to the opportunities last year afforded to the committee in Hyde Park. The sum of £5,000 was allowed for the purpose of embellishing the museum, and £4,470 has been expended, in proportions which we also give, because they are significant. For articles on the foreign side of the Great Exhibition the committee laid out £2,075, for articles exhibited by the East India Company, £1,501, and for articles on the British side, £893 —a hunting knife, we may observe, and an agate cup taking at once nearly half this latter sum. It will be seen how much of its lessons British taste owes to foreign sources. The articles are classified under six heads—namely, woven, metal, pottery, glass, furniture, and various. But this arrangement is only temporary; and when sufficient space is provided, a more minute subdivision, the committee say, will probably be desirable.

A congress of German shorthand writers has just been held at Munich, the government lending for its sittings the concert-room of the Odéon; M. Buttner, the ministerial assessor, acting as president. This gentleman opened the proceedings by an address in favor of stenography, and declared that the gov-

ernment was most ready to encourage the propagation of the art. M. Baumgartner, of Vienna, explained his system of taking down in writing instantaneously the notes of any musical piece played. The system being tried, was found to answer perfectly.

The report of the Commissioners of Health in Ireland on the epidemics of 1846 to 1850 has just been published. The report commences by tracing the progress of the fever in the winter of 1846–47, and describes the medical institutions at that time in Ireland as peculiarly unfitted to afford the aid required. The number of applications from local bodies for hospital accommodation was 576; of these, 203 were refused and 373 granted. The total number of persons treated in the hospitals during the three years and two months that the powers of the commissioners were in force, was 332,462, and of these 34,622 died, showing a mortality of 10 2-5ths per cent. Of 472 medical officers appointed under the Temporary Fever Acts, 36 died during the epidemic. With regard to food, the commissioners point out the difficulties of providing a substitute for the potato, and proceed to inquire into the relative qualities of rice, oatmeal, Indian corn—the former, it is stated, is far inferior to the others. One cause which added much to the production of diseases amongst the poor was the use of raw and badly cooked food. The connection between fever and the scarcity of food is pointed out from tables, showing the price of food during the infliction.

The city antiquities of London have lately been enriched by valuable discoveries. For the last two months excavations for foundations of buildings have been making on Tower-hill, close to the fragment of the old city wall, which was given up by the corporation some few years since to be pulled down, but which, owing to the interposition of the Woods and Forests, has been respited up to the present day. This fragment, in the almost entire absence of any other remains of the great wall which once surrounded the city, is well worth preserving. The upper part is probably not older than the time of Henry III., but the lower is Roman work. The excavations alluded to above, revealed some of the original Roman masonry which had been concealed by houses and other buildings. It was in excellent preservation, the facing-stones quite perfect, and the rows of red tiles (such as are usually found in Roman walls) remained to the extent of two or three layers. Close to this portion of the wall, and piled up to a considerable height, was a mass of cut and sculptured stones, which at some remote

period had formed part of one or more buildings of magnitude, such as abound in Roman London. Some of these had been foundation stones, others had been portions of cornices, pilasters and columns, and one was the half of a millstone in Andernach lava. The most attractive of these stones (for it appears the trustees of the British Museum have been induced to accept it) had originally formed part of a composition of very elegant design. It is five feet in length, and at one end is sculptured to represent a roll of foliage, bound round in the middle by a band and strings. The other stones are carried off to be used, it is feared, for building materials, like many similar remains found in the city in past years. The want of opportunities for their proper examination is to be lamented, as one of the larger flat slabs (upwards of five feet in length) is inscribed with letters, some of which are nine inches in length: they belong to a sepulchral inscription, of which only three lines (two of them incomplete) remain. It is extremely probable that at least other portions of the inscription are upon some of the stones found with this inscribed one, but as they are now carried away from Tower-hill, there is but little hope of their being examined.

Street architecture has received the addition of a new feature in the great metropolis, by a bold and successful attempt at variety, by the aid of color. The tints employed are black, gold, and carmine, which, assisted by the all-pervading yellow of the sun's rays, and the azure gray of the atmosphere, are brought into agreeable and harmonious combination.

M. Niepce St. Victor, nephew of Daguerre, has made the discovery of colored Daguerreotypes, and exhibited his pictures to the public. Three of his pictures are now before the public in London, and the new art is called heliochromy, or sun-coloring. They are copies of colored engravings, the one a female dancer, the other male figures in fancy costumes; and every color of the original most faithfully impressed on the prepared silver plate. In the proceedings of the Paris Academy of Sciences, the following account of the discovery is given:

The idea struck young St. Victor that there was some relation between the color which a body communicates to a flame and the color the light develops on a plate of silver which has been chlorinated, and he therefore commenced a series of experiments to test its correctness. He knew that strontium gave a purple color to alcoholic flame; he therefore prepared a plate of silver by passing it through water saturated with chlorine and the chloride of strontium. He then applied the

back of a drawing, containing red and other colors, against the plate, and exposed the whole to the light of the sun fifteen minutes, when the colors of the picture were produced on the plate, but the red one far better defined than the others. To produce the six other rays of the solar spectrum, the same method used to produce the red color is followed with other substances. The chloride of calcium for an orange, the chloride of soda of potassium, or pure chlorine, for yellow; and beautiful yellows have been produced by a solution of hydrochloric acid and a salt of copper. The green ray was produced by boric acid and the chloride of nickel; the blue ray was obtained by a double chloride of ammonia and copper, and a white ray with the chloride of strontium and sulphate of copper. A silver plate, prepared with water acidulated with hydrochloric acid and the battery, gives all the colors by the action of light, but the ground of the plate is always black. St. Victor found that all the substances which produced colored flames produced colored images by means of light. The plate upon which to produce these effects must be prepared with very pure metallic silver. The baths are made one-fourth by weight of chloride, and three-fourths of water. After the plate is well polished by tripoli and ammonia, it is immersed in the bath at one stroke, and allowed to remain a few minutes. It is then removed from the bath, rinsed in clear water, and held over a spirit-lamp till the plate becomes a cherry-color, at which point it is exposed to the light in the camera. It takes two hours of exposure, but the process will yet be shortened. The whole process, to be successful, must be nicely managed.

A curious philosophical experiment was brought to the notice of the French Academy quite recently, by M. Andraud. It relates to such a contrivance for observing the rays of light that the interior of the eye may be seen by itself—or, in other words, *seeing the air.* The experiment may be tried, and the fact verified, in the following manner: Take a thick visiting-card and blacken it with ink, or a piece of pasteboard opaque enough to forbid the transmission of light through it, and perforate the centre with a pin-hole. Place the card between the eye and a candle-flame, or a globe-lamp, and not more than two inches from the eye, and the same distance from the light; but this distance will vary according to the convexity or flatness of the seer's eye, who must adjust it till he finds his focus. Instead of seeing the flame of the candle, the beholder now discerns a circular disc the size of the iris of the eye. This disc is bright and planet-like, and is crossed by innumer-

able lines like the fibres visible on the surface of a magnified rose-leaf. It *appears to be beyond the eye*, between the card and the light; and it is this illusion which deceived M. Andraud, and led him to suppose that he saw a portion of the atmosphere magnified. But this visible disc is, in fact, a spherical section of the fluidal crystalline lens within the chamber of the eye, strongly illumined by the concentrated pencil of light, passing from the candle into it through the minute hole in the card; and the veined appearance of its surface is the reticulated *materia* of the ordinarily transparent coat of the cornea rendered visible. The chamber of the eye thus lighted up by the intense line of light passing into it through the minute orifice, (which acts as a strongly magnifying lens,) there is conveyed to the optic nerve an image (exactly the size of the pupil through which the ray passes) of a circular section of the crystalline fluid, with its atomic particles intensely magnified. The spectacle is one of surpassing wonder and beauty. Myriads of illuminated molecules distinctly appear in tremulous motion in the bright fluid; some of them are simple globes, others are encircled by two or more concentric rings like exquisite miniatures of the planet Saturn, as seen through a telescope. Some of them are transparent, like infinitely small soap bubbles, and float about as lightly, while others are of the white color of pearls. By contracting the eye, or by gently moving the head from side to side, these beautiful millions of globular atoms are made to undulate within the chamber of the eye, and change places, some ascending and others descending; while others thrown nearer the focus of the light dart across the disc like shooting stars in a lesser firmament; while others revolve about each other in orbits of infinite diversity. The experiment is a highly interesting as well as a philosophical one, and will well recompense whoever attempts it. It will require some practice in a tyro to adjust the card to the proper focus, so as to obtain the clearest disc; but any one who knows how to use a microscope will easily discover when the card is in focus. If the flame of the candle is seen through it it is out of focus, and it must be advanced or drawn back until a round planet-like shape is discernible. This planet-like shape, which will appear crossed by a net-work, is the corner coating of the eye magnified. The pupil of the eye must now be expanded, as when one examines closely a very minute object, when the atomic world of globules that compose the crystalline fluid will be discerned behind the net-work surface of the cornea; and the steadier one gazes the clearer is this wonderful and beauti-

ful spectacle perceived in all its surpassing variety of form, beauty, and motion.

Some interesting experiments have taken place in the city of Boston, at the laboratory of Dr. C. T. Jackson, in relation to the poisonous qualities of chloroform. It was pretty satisfactorily demonstrated that that agent contains deleterious ingredients, existing in the form of a terchloride of amyle, or amyle compound, found in the pure fusel oil by a process discovered by Dr. Jackson. That gentleman says:

"I have long had a strong suspicion that the very sudden deaths resulting from the inhalation of chloroform, must have been produced by the presence of some poisonous compound of amyle, the hypothetical radical of fusel oil, or the oil of whisky; and I began a series of researches upon this subject several years ago, but was called off from my work by unxpected persecutions. This work I have resumed, and I will now state what facts and inductions I am able to lay before the public.

1st. When chloroform, and the alcoholic solution of it called chloric ether, was made from pure alcohol diluted with water, no fatal accidents occurred from its judicious administration.

2d. When chloroform was made, as it now too frequently is, from common corn, rye, and potato whisky, deaths began to occur, even when the utmost care was taken in its administration.

3d. In the Chelsea case, where this kind of chloroform was probably contained in the alcoholic solution, incorrectly called chloric ether, death took place in a very sudden manner, and the post mortem appearances on the subject indicated the usual effects of poisoning by chloroform.

From these data, it might justly be inferred that some poisonous matter exists in the cheap chloroform of commerce, and I suspected that it arose from the fusel oil which exists in whisky.

Having, during the last month, succeeded in procuring some very pure fusel oil, (of whisky,) I undertook the researches which have resulted in the conviction that it is the ample compound that produces the poisonous matter of certain kinds of chloroform. When mixed with hyperchlorite of lime (bleaching powder) and water, in the same way as we prepare alcohol for the production and distillation of chloroform, I found that the mixture in the retort, after agitation and standing some time, became warm, indicating that a reaction was taking place between the fusel oil and the hyperochlorite of lime.

After some hours the retort was placed in a water bath, and distillation was effected, the volatilized liquid being condensed by means of one of Liebig's condensers. A clear colorless liquid came over, which was at once recognized as having the peculiar odor of bad chloroform. It is perhaps a terchloride of amyle, but has not yet been submitted to analysis. It is so powerful that merely smelling of it makes one dizzy, and working over it made me so sick that I was obliged to go out of doors for fresh air several times during my operations on it. In order to make sure that the fusel oil was all decomposed, I again mixed the product of the distillation above mentioned, with a new lot of bleaching powder and water; and after three hours, with frequent agitation, it was again distilled, and gave what I regarded as the pure unmixed poison. This I am now to test on such animals as have proved good ether subjects, and shall make report of my results in this journal.

If my views are correct, it follows:—

1st. That all chloroform intended for inhalation as an anæsthetic agent should be prepared from pure rectified alcohol, to be diluted with water when used for distillation from hyperchlorite of lime.

2d. That no druggist should sell for anæsthetic uses any chloroform which is not known to have been properly prepared as above suggested.

3d. That the mixture of chloroform and alcohol, commercially known under the name of strong chloric ether, must be made with the same precautions as chloroform.

There is less danger of the existence of fusel oil in sulphuric ether, which is always made from strong rectified alcohol.

There is more danger of the existence of sulphuric acid in this liquid, and that is a dangerous poison, and it is one readily detected; and persons will object to inhaling ether containing it, on account of its well known disagreeable odor of burning sulphur."

Sir Charles Lyell, the eminent geologist, has lately arrived in this country, on a second visit of combined pleasure and research.

Mr. Jarvis, inspector of the Gosport Navy Yard, is engaged in a number of experiments on the Wood material, under the special countenance of the Government. He has been already several years employed on these experiments. He makes periodical reports to the chief of Bureau of Yards and Docks on the subject. These reports may be of great service to the world at large, and especially to navigators and ship-owners. He had felled at Cape Hatteras, N. C., on the 15th of each month of the year 1849, ten trees of live oak, and in Norfolk county, Va., of the same year, ten trees of white oak and ten of yellow pine. These trees, when carried to the navy yard, were subdivided into blocks, so as to make them portable. One half of the trees were hewn to sharp corners, and the other half were left in the round with the bark on.

After the tree was cut into blocks the specific gravity was obtained, both of the squared pieces and those in bark. They were then placed in prepared tanks, having in them solutions and substances such as corrosive sublimate, copperas, alum, chloride of zinc, coal tar, &c. The pieces remained in the tanks one month, that is, until the arrival of the pieces felled of another month. The pieces were all removed from the tanks as soon as the newly felled ones were ready to go in solution. Many of the pieces are exposed to open air; some are planted as posts; others (square and in bark) are laid as railroad sills are; many, or a proportion, are kept under cover, and alongside of these are pieces which are unprepared. These pieces, he says, are the test pieces. He is of opinion that in two years more the pieces prepared and unprepared can be examined, when he is sure of making such a report as will be of much service to the world at large.

He is also using his ingenuity in experimenting on the sea-worm, known as the "Teredo Navilis." He says he has now in the water, near the dry dock, some hundreds of pieces of wood, of several species; these pieces are prepared, by being

poisoned with corrosive sublimate, in solution of chloride of lime, copperas, many kinds of paints, and paints over poisons. Many of the pieces have holes bored into them, and are then filled with all kinds of solutions and substances. He has many square boxes in the water, some filled with oil, others with poison, some empty, and some of them filled with water. This, he thinks, will test the boring of the worm. Mr. Jarvis says the worm never passes through the wood—that the animal cuts the wood to a thinness which it is impossible to conceive how thin; that the water breaks or forces itself into the cells of the worm, and then through the bottom plank. He states that the worm cannot live in the water, or in air; but dies as soon as he is taken from the alcove; and that the worm lines the inside of its alcoves or cells with a lime-like substance, to keep from being drowned. It is his opinion that their first appearance is under the surface of the wood, and he believes that they are produced, generated, in the wood; that if they do enter from the water, the orifice is so small that he has not as yet ever been able to discover where they entered. Sometimes he says there are small holes to be seen, and from them are seen the white tails of the worm; but it is the thinness of the surface, Mr. Jarvis says, that is the cause of the tail of the worm protruding.

The new caloric ship of Mr. Ericsson is destined to mark a step in the progress of ocean navigation. The leading principle of the caloric engine consists in producing motive power by the employment of the expansive force of atmospheric air, instead of that of steam; the force being produced by compression of the air in one part of the machine, and by its dilatation by the application of heat in another part. This dilatation, however, is not effected by continuous application of combustibles, but by a peculiar process of transfer, by which the caloric is made to operate over and over again, viz.: The heat of the air escaping from the working cylinder, at each successive stroke of the engine, is transferred to the cold, compressed air entering the same; so that, in fact, a continued application of fuel is only necessary in order to make good the losses of heat occasioned by the unavoidable radiation of the heated parts of the machine. The obvious advantages of this great improvement are the great saving of fuel and labor in the management of the engine, and its perfect safety. A ship carrying the amount of coal that the Atlantic steamers now take for a single trip, could cross and re-cross the Atlantic twice without taking in coal, and the voyage to China or California

could be easily accomplished by a caloric ship without the necessity of stopping at any port to take in fuel. Anthracite coal being far the best fuel for this new engine, we shall no longer have to purchase bituminous coal in England for return trips.

The accounts of the cycloid storm that swept along the Atlantic coast in August show some of the remarkable features of that kind of atmospheric disturbance. Its beginning is traced to the Gulf of Mexico, at a point south-east from Key West, where it raged eleven days before. In its regular course, it reached Halifax in Nova Scotia; how much further it went in that direction we have no accounts. It is the kind of storm that Mr. Redfield first proved to be a great whirlwind. This he did by showing that, at the same instant in different places, the wind actually blows in a circle, of course the circle being very large, measuring some five hundred miles in diameter, and while whirling around progressing forward like other smaller whirlwinds.

Dr. Robt. Hare, of Philadelphia, replies to this argument by combating the theory held by Mr. Redfield. Dr. Hare remarks:—

Agreeably to the observations of Loomis (Transactions A. P. S., 1837), a great storm of December, 1836, moved from north-west to south-east. There was an area of minimum pressure and of calm, towards which the wind blew between south and east on one side, and north and west on the other.

This area extended from north-east to south-west about 2,000 miles—from Canada to the Gulf of Mexico. Could such a storm whirl? There are several other objections to be made to the possibility of whirlwind storms, in which the whole of the air within the theatre of stormy reaction revolves about a common axis. However, a limited whirl may be produced by the conflict of currents meeting at the focal area towards which they blow, according to the centripetal theory of storms.

But when a whirl is produced by the conflict of inblowing currents, it must be clear that the greater part of the mass affected cannot whirl; as there must be room for the centripetal currents to exist as well as for the whirl, which is the mere creature of their momentum, acquired necessarily before meeting.

The stratum of the atmosphere in which storms take place is too shallow to admit of the generation of extensive whirls, of which the diameter is probably never greater than the depth of the fluid in which it takes place.

A scientific expedition to the head waters of Red River has been completed by Capt. Marcy, U. S. A. The country was found to abound in copper ore of rich quality.

The question of the explosion of steam-boilers has been painfully brought to mind by the recent river and lake disasters which the journals of our own country have been called upon to record. England and France have escaped the serious infliction of such calamities of late years, and this Union takes the palm, if there be any such thing as precedence in occur-

rences so terrible. The investigation of the causes of these disasters therefore properly comes under the supervision of the American observer. In a late explosion upon the Hudson River, the mass of steam contained in the boiler of the steamer was sufficiently powerful to destroy the tubes of the flue and scatter the fragments around, throwing volumes of scalding steam into the cabins and upon the decks of the vessel. The result proved that a defect existed in the iron of which the flue was constructed, and this had not been observed by the inspector, though a certificate to the effect that the boat was secure in all its parts was given in accordance with custom. There is an evident lack of reliable systems of inspection when such things as this pass unnoticed. In the present instance, the excuse is offered in palliation, that the Inspector was not able to draw himself through a flue of the dimensions of twelve inches—yet the certificate of safety was given, and the public placed such confidence in it that the boat was extensively patronized, and, in consequence, many lives were sacrificed. A radical defect seems to exist in the entire system of management. If the tubes cannot be properly examined, it is argued, and with justice, let the Inspection state that fact, and put the public on no further false scents. A late communication from Lieut. W. D. Porter, U. S. N., considers this matter in a true light; beginning at the foundation of the evil—the formation of explosive gases. The following extract is taken from the *National Intelligencer*:—

The cause is simply the formation of *hydrogen gas.* I will prove this by showing the modus operandi in the decomposition of water, and its component parts. Water is composed of hydrogen one part, oxygen eight. The simplest method of decomposing water is as follows: Take a common retort, a porcelain tube, a bundle of bright iron wire, and a bladder or gas-bag fitted for the purpose, fill the porcelain tube with the wires, tie on the bag and introduce the retort, put into the latter water, and you are now ready to begin the operation. Place a body of coals around the porcelain tube, a lamp under the retort, and the steam will be forced through the wires and tube; the wires must be heated to a red heat; the vapor of water (steam) coming into contact with the heated iron is decomposed, the oxygen is retained by the iron, forming oxyde of iron, and the hydrogen is given off from the tube, which conducts it into the gas bag. For every eight grains of weight acquired by the iron forty-six cubic inches of hydrogen, weighing one grain, has been evolved. The iron in this case is substituted for the hydrogen, taking its place with the oxygen to form the oxyde of iron, while the hydrogen is set free. The oxyde of iron resulting from this action is the same black oxyde which the smith strikes off in scales under the hammer, being a mixture of protoxyde and peroxyde.

The boiler then plays the part of the retort, the furnace the lamp, the tubes as flues, the wires and the steam jacket the gas holder. When the water is low and the tubes or flues are exposed above the water line and acquire a red heat, the vapor of water (steam) is decomposed, and hydrogen is rapidly formed. Of all gases this is the lightest and most explosive. Its effects are more terrific than that of

gunpowder of the strongest detonating compounds. It is only necessary to combine with it about one-third of oxygen gas to make it explosive. A variety of experiments have been made to burn hydrogen and oxygen together, but the most of them have resulted in terrible explosions. Professor Hare, after numerous experiments, was enabled to accomplish this object by a very simple arrangement, now termed by Professor Silliman the compound blow-pipe.

The question now arises, how can the decomposition of water in steam boilers be prevented, the formation of hydrogen gas stopped, and a remedy invented by which boilers will not burst?

Nearly all boilers explode on opening the safety-valve; the steam rushes out in a conical form, the base of the cone uppermost; this leaves a space in the centre of the cone through which the circumambient atmosphere rushes, supplying of course oxygen. If, then, the water is low, and the vapor decomposed, and hydrogen gas is formed, the supply of oxygen causes an instantaneous explosion. The method, then, to prevent the oxydation of the tubes or flues is to *plate them with silver*.

Let any one take the apparatus above explained, and instead of bright iron wire introduce plated iron wire, and he will find that the water, or vapor of water (steam) will not be decomposed, showing fully that hydrogen cannot be formed without oxydation. This simple remedy, not very expensive, will effectually prevent most explosions.

Every engineer is well aware that when the steam from the upper cock has a blue appearance there is danger; but every one does not know that this blue appearance indicates hydrogen gas; in fact it is hydrogen gas, and in a state of inflammability. The flame of this gas is light blue, and only burns when in contact or supplied with oxygen. As it is the lightest of all gases, and rises to the upper part of the steam jacket, a pipe could be introduced into the upper part of the steam jacket and conducted to the fire or engine rooms, where the fireman or engineer could occasionally try the cock and ascertain the formation of hydrogen by the color of the steam or jet. Should the jet appear of a blue cast, by having this pipe continued outboard and under the water-line, the gas could be allowed to escape through this tube, and steam would then take its place in the boiler. With this safety-pipe well attended and the upper tubes plated, but few explosions could possibly take place.

As we say in claims for patents, I do not claim having discovered the method herein mentioned in making hydrogen gas, but only the safety tube and the plated flues and tubes.

Silver melts at 1,280 deg. Fahrenheit, or 20 deg. Wedgwood, and iron becomes of a red heat, or cherry red, at 1,100 deg. Fahrenheit, or 19 deg. Wedgwood. There is then no likelihood of the silver-plating melting before the tube can be covered with water, should they at any time become bare.

The engineer should never open his safety-valve until he has tried the upper cock in the boiler. Should the steam appear blue and indicate hydrogen, then he should certainly keep his safety-valve shut, and work off the gas through his cylinder. This will, if strictly attended to, save not only his own life, but that of many others.

DIALOGUE, AFTER THE GREEK.

Continued.

S. It seems to me that what you say would tend to the conclusion that all genius is inspired; whereas, if we even take great latitude, it would seem to me highly irrelevant to speak of inspiration, save in connection with the Prophets and Apostles.

C. It is only for the want of terms that this mode of expression is allowable. We cannot deny the name of poet to many who are as unlike the greatest as a substance is to a shadow.

S. It is not clear to me what constitutes a poet, and until it be, I cannot say who has claims to be considered in the conversation, since we have not yet defined what poetry is. If it be inspired, using your own term, whatever it means, the prophecies are not poetry.

C. Then, my dear Simmias, poetry was never written. The very essence of its being is truth. Our familiarity with the sacred writings from childhood unfits us to appreciate their wonderful beauty, in whatever light we regard them, and even the New Testament is no less poetry. Take, for instance, this in Revelation.

> And I saw a great, white throne,
> And Him that sat thereon,
> From the brightness of whose face
> The earth, and the heavens fled away,
> And there was no place for them.

S. You seem to have made poetry of it.

C. Yes, indeed, if so mean a thing as dividing into lines makes poetry, as you say. I will instance one more.

> I will arise, and go unto my father,
> And will say unto him—
> Father, I have sinned,
> And am not worthy to be called thy son.

This is ordinarily read as simple prose, but if it have not in it every essential of the divine art, as the Greeks were accustomed to call it, then has not Milton or Shakspeare.

S. Your use of the term divine art reminds me of the question which I previously had in mind—that is, whether this gift of which we are conversing can in any way be acquired, and if its creations have any connection with art, or if they be wholly a spontaneous product?

C. First, touching the probability of its being acquired, I do not think it can be; but it may be cherished.

S. In what manner, Cebes?

C. As we prevent the passions surmounting reason, so the poet must guard against being blinded to truth; and not only this, but he must embrace every occasion to express himself her votary. As man everywhere rises superior to himself, in proportion as he improves every opportunity of virtue, so he who

is possessed of the poetic temperament ascends in the scale of his divine gift; so he approaches nearer the noble structure of the temple of the beautiful, in the same measure as he is guided by the spirit that ministers at her altar.

S. And yet it seems to me that he who is possessed of the gift of song, must sing on, whether triumphant or oppressed. Or, waiving this remark, I will ask you—how it is that so many are disposed to melodies in youth?

C. The nobility, the loveliness, and truthfulness of this spring-time are part of the poetic element.

S. You have already argued, that the inspired language of the holy apostles is in no way unlike the genuine offsprings of poetic art.

C. Only, Simmias, the form is the same; the burden of the music higher, as it flows from the shrine of the holy.

S. But, Cebes, do leave that lofty region. I will name a clique, if you will descend among them.

C. Well, Simmias, would you have me give my opinion in regard to the genuineness of those, in modern days, who so numerous lay claim to the honor of being ranked among the class of which we are speaking?

S. Since in this there is danger of appearing invidious, let us rather look among the great names of the departed.

C. Poetic effusions are the native outgushings of minds strongly imbued with some one of the various classes of thoughts or emotions. The relation of man to his Maker was the absorbing theme in the mind of Milton, as expressed in the Paradise Lost, illustrated, enriched, and filled with episode, from a mind intuned to the hamonies and beauties of classic legends. Humanity and its dignity—humanity still, though in oppression, wrought out the Lear, the Desdemona, the Constance, the Miranda, all the royal troop of kings, and queens, and peasants of Shakspeare. Each thing that beautifies it—each thing that defaces it, he represented. The blessings of charity—angel-guarded chastity—the tears of compassion—the royalty of indomitable purpose—side-shaking buffoonery, found a corresponding chord of music in his mind. As the trees wave, as the flowers play and dance to the gentle air, in such grace did the love of nature, and the kindred feelings of humanity, move to melodies in his spirit.

The glowing heart of Burns throbbed with a luxurious sympathy that baptized the daisy in its musical-dropping dews. Repulsed by man, he could not close up its founts. The birds and streams, the very insect tribes, he loved. His Highland

Mary will be enshrined in memory while the heart pulses to the mournfully sweetest verse that mortal ever penned. The Divina Comedia of Dante is the archetype of the Heaven and Hell that had their dwelling in his soul.

S. You speak as though something broods over the spirit and presses out its effusions, rather than as though they sprang from any breathings in.

C. This remark, my dear Simmias, is well. I hope I shall yet be able to arrive at some conclusion which will spare your nobly reverent feelings for holy inspiration. But there is one class of poetry which we have not yet alluded to, which is so different from the others, that I am perplexed where to rank it.

S. You do not mean the sentimental?

C. No, they that mope in its moonshine may move after its monotone; such is not to my liking. You will recognize my meaning when I call it the Wordsworthean, so allied to the genius of inanimate nature as to remind one of the fabled lives of Dryads sprang of the groves, ruling them and ruled by them. The purity and loveliness of nature, the matchlessness of its never-ending, ever-varying grace, won the love of his quiet spirit. If there be poetry in the harmony of goodness, then it lived in his bosom.

S. Still, Cebes, I have many things to ask, since splendid imaginings, pure and earnest emotion, sweet and bewildering fancies are often to be found in prose, and even constitute a part of its higher qualities. Plato is sometimes called the divine, and his writings styled poetic prose. I have heard of great poets too who wrote indifferent poetry, and of prose epics or lyrics, until I am quite at a loss to divine what is the true musical fire.

C. My good angel, put the last phrase in your mind, "true musical fire." It is this—the thoughts and feelings of the poet's soul move to music. Expression bears the rhythm of its flow as the airs echo the murmur of the brook, the voice of the groves, and the rage of the storm.

S. Are we to judge of the genuineness of a production with reference to a general standard or a particular?

C. Explain what it is you mean, Simmias.

S. What should I say of a simple ballad because it has none of the qualities of an epic?

C. Judge each in its kind. Anacreon as a lyric is not inferior to Homer as an epic poet. Milton's pastorals are not unequal to his dramas. Tennyson's Lord of Burleigh in its kind is superior to Gray's Elegy in a country church-yard.

S. What matters it, my dear Cebes, the long preface attached to a volume of lyrics, informing of circumstance and time?

C. Ah! Simmias, I know you would say that each thing in outward nature suffices in itself. The violet's perfume needs no prologue—the tulip's beauty no apology; but the works of man, save those of the plastic arts, are not endowed with this glory of perfection. Sometimes a detached lyric, a nameless tragedy, or contested epic, secures a niche in the temple of the immortal; but words fall short, language is generally too mean to express the splendors of the perfect, even to that degree which music and painting have arrived at. Too often is volubility coupled with inanity of soul, while the fiery and impassioned must bow in silence to the majesties that move over them.

S. Yet, Cebes, what matters it to me, the apologies for a failure? Give me things in which all time is to delight, and all I care for the individual is that I may cherish a lasting gratitude towards him in my heart. But it is not of so great consequence to me who failed to accomplish their large desires —pity from our friends always, from the public never.

C. That must needs be a great nation which will yield no examples but the great.

S. Yet if we would not tolerate the marred and broken, or even call for it, we should have it in art scarcely less than in nature.

C. We have often used the term art as applicable to poetry.

S. And is it not so? I long to hear you on this point.

C. If he who is pervaded with beautiful thoughts or feelings to that fulness which is ever musical, pours them forth with a melodious spontaneity, beginning with the natural prelude and swell, rising and then falling in graceful cadences at the close, is, of necessity, an artist, then such is each songster of the grove. Yet this is the only genuine poetry, the only immortal. The daw may attempt to sing, but her tones fall much farther short of a song than the mocking bird's. I could fancy Wordsworth and Byron with heaven-born lyres attuned, the one to the music of the spheres, the other to terrestrial melodies, yet melodies still, uttering their notes, their symphonies with a grace as native and unconscious as the nightingale beneath rustic bower or on moonlighted glade—yet not all even of theirs—not all that any poet has written, will stand so severe a test. But each genuine paragraph, each sweetly

rhythmical line is born of the flow of soul. Art may imitate, but, to the delicately perceptive ear, its very method betrays it. The true poet should be so burdened with his song as to feel impelled by the god to utter it whether he will or no.

S. Admit that this is all true of lyric, is it also true of epic poetry or tragedy?

C. All must be spontaneous, else it is mere prose: no cautious measuring can redeem it from this. The lowest depths of tragedy must be so pervaded with the woes of the victim that very sympathy shall vent its grief in rhythmical utterance.

S. I will leave all this, and come at once to the grand epic. Here the circumstances are long gone by, the plot long maturing in the poet's mind—the episodes, many of them foreign. Here the work of years cannot claim that stamp of spontaneity which gives birth to instantaneous perfection.

C. True, my dear Simmias. Hence the difficulty of the task, the superiority of the triumphant work. Many can express their momentary feelings in pretty rhyme; but few can create a world of splendors, and so raise themselves to their participation as to live and reign among them. This the epic poet does, and transmits to posterity his consistent creations, his glorified conceptions.

THE SEA.

It is a nun-like eve. The stars look forth,
From depths serene along the tranquil sea,
Which locks their vestal fires in its embrace,
And with blue, murmuring lips, repeateth oft
A mournful dirge to the gray, pebbly shores,
Which echo it again to motionless
And dark-locked groves, till, through the ambient airs,
Atremble with the sounds, 'tis lost and dies;
Or, dying never in the Eternal's ear,
And round his heart enfolded lies.
O sea,
Is some fair jewel from thy casket gone,
That thou lamentest? Art thou human too?—
Thou risest, and from thy terrific frown
The eagle maddened wheels. The winds conspire
To rock the argosies upon thy breast;
The clouds, with pomp and gleam of lightning mirth,
Join in thy phrensied dance and revelry:

Then thou returnest to thy destined bounds,
Still hymning to the girdling shores—"Thou, God,
Alone art great."
Ye stars, that wander through
The void and dread immensity of space,
To do His bidding; and thou, rolling sun,
That hid'st thy fire behind the mountain steeps;
And you, ye rock-ribbed, hoar-resounding sea,—
Are ye immortal, that we shall in heaven
Again greet ye? That I had never known,
Or taken to familiar fellowship,
Or once endeared should lose the scenes inmove
With every fibre of my heart and soul,
Of conscious being. Thou, our God, art good.
Perchance thou gav'st the sea to lave thy feet,
And murmur on a sweet celestial hymn,
When in thy highest heaven thou garnerest
Thy souls with all the starry worlds redeemed,
And cloth'st Thee, in thine azure firmament,
With glory crown. Thou, God, art God alone.

THE EASTER HYMN.

(From Goethe's Faust.)

[NOTE.—There have been many translations of Faust, differing widely in skill and success; but none of them do justice to the lyrical portions of that wonderful poem. Few of them have even attempted to render faithfully the metres where they transcend the ordinary limits of rhythmical movement. And yet in lyric poetry it is the rhythm, the melody, rather than the logical signification, that makes the soul of the piece. If one or the other must be surrendered in translation, let it be the wording and not the measure,—so the general sense be preserved. In the following experiment with the Easter Hymn, we have endeavored to secure what seems to us of first importance, without too great a sacrifice of the rest.]

CHORUS OF ANGELS.

CHRIST has arisen!
Joy to our buried Head!
Whom the unmerited,
Trailing inherited
Woes did imprison!

CHORUS OF WOMEN.

Rich the devices
We had prepared;
Odorous spices,
Linen and nard.
Woe the disaster!
Whom we here laid,
Gone is the Master,
Empty his bed.

CHORUS OF ANGELS.

Christ has arisen!
Loving and glorious,
Out of laborious
Conflict victorious,
Christ hath arisen!

CHORUS OF DISCIPLES.

Hath the inhumated,
  Upward aspiring,
Hath he consummated
  All his desiring?
Is he in being's bliss
  Near to creative joy?
Wearily we in this
  Earthly house sigh.
Empty and hollow, us
  Left he unblest?
Master, thy followers
  Envy thy rest.

CHORUS OF ANGELS.

Christ hath arisen,
  Out of corruption's womb!
Burst every prison!
  Vanish death's gloom!
Praise him in verity!
Active in charity;
His feast prepare it ye!
His message bear it ye!
His joy declare it ye!
  Then is the Master near,
  Then is he here.

MR. WEBSTER AND OUR FOREIGN POLICY.

"When political parties with whom you have contended," was the language of the Hon. Mr. Sprague, addressing Mr. Webster in the name of the assembly of admiring friends and neighbors who had met to welcome his return to his peaceful home at Marshfield—"When political friends with whom you have contended shall have passed away, when private prejudices and private interests shall be hushed in the silence of the grave, posterity will award you the full measure of justice!"

The full measure of justice!—a terrible prospect to most

men! How few who dare look forward calmly to the vale beyond the tomb, and, silencing the voice of vain self-esteem, can boldly probe their conscience, and call on posterity for a full measure of justice! How few authors but tremble at the inevitable sentence on some ill-conceived, ill-executed book! How few citizens but would covet oblivion for some treason to the commonwealth! How few politicians but would shrink from "a full measure of justice" doled out for each act of their public career!

With what feelings can our Secretary of State have listened to Mr. Sprague's apostrophe? What must have been his reflections as his past life rose up in judgment against him, and many a fault—for who has none?—flitted gloomily across his mental vision? Faults of commission—faults of omission—desertions of his country's interests—trucklings to foreign powers—unprincipled attempts to despoil others of their rights—blusterings for popular effect,—were there any such, looming over memory's retrospect, and bedimming the brightness of the deeds which earned for him the proud title of "the greatest statesman of America?" Did no shudder run through his frame, as his eloquent interlocutor, like Shylock, called for "justice and the penalty of his bond?" Or, if the page of the past was white and spotless, did the shadow of no coming betrayal of his high trust cast a gloom on his brow? Can it be that never a presentiment or a misgiving shot through his brain, when the Fishery quarrel was mentioned and he bethought him of that famous letter to Captain Jewett?

Let us glance over his recent acts of statesmanship, weigh them in the balance of calm reason, unbiased by national or party prejudice, and endeavor to forestall posterity in that "full measure of justice" which awaits them hereafter.

THE FISHERIES.

The fishery dispute is the first in date. A brief retrospect will enable us to form a comprehensive judgment on its merits.

The war of 1812 had abrogated the treaty of 1783. After peace was re-established, Commissioners on behalf of both countries met to frame a new treaty. Our negotiators were instructed to obtain the right of fishing on the coasts of Newfoundland and Labrador; and in order to gain this point, they renounced in exchange the fisheries on the shores of Nova Scotia and Cape Breton, which they had enjoyed, in common

with the British fishermen, under the treaty of 1783. Mr. Rush, our Plenipotentiary, places this point beyond a doubt. He says: "It was by our act that the United States renounced the right to the fisheries not guaranteed to them by the Convention. That clause did not find a place in the British counter project. We deemed it proper: 1st, to exclude the implication of the fisheries secured to us being a new grant; 2ndly, to place the rights secured and renounced on the same footing of permanence; and 3rdly, that it might expressly appear that our renunciation was limited to three miles of the shore." The following article was accordingly inserted in the convention of 1818:

"And the United States *hereby renounce forever any liberty heretofore enjoyed* or claimed by the inhabitants thereof *to take*, dry, or cure fish *on or within three marine miles of any of the coasts*, bays, creeks, or harbors of His Britannic Majesty's dominions in America not included within the above-mentioned limits. Provided, however, that the American fishermen shall be admitted to enter such bays or harbors for the purpose of shelter and of repairing damages therein, of purchasing wood, and of obtaining water, and for no other purpose whatever. But they shall be under such restrictions as may be necessary to prevent their taking, drying, or curing fish therein, or in any other manner whatever abusing the privileges hereby reserved them."

Though this prohibition was not as strictly enforced as the colonists wished, Britain showed that it could not be considered as a dead letter by effecting periodical seizures of American vessels found trespassing in the forbidden waters. Thus between the spring of 1821 and the fall of 1851, no less than thirty-six American vessels were seized, thirty-one of which were condemned. Two cases, of vessels seized for fishing within bays belonging to Great Britain, in the year 1844, made some stir, and Mr. Everett, the Minister at St. James', applied to Lord Aberdeen for a new interpretation of that clause of the treaty which refers to Bays. The British Government "still maintained, and in that view were fortified by strong legal authority, that... no American fisherman had a right, under the convention of 1818, to fish within three miles of the entrance of bays on the British American coast, as designated by a line drawn from headland to headland at that entrance:" but "being sensible to the advantages which would accrue to both countries from a relaxation of the exercise of that right," agreed to allow American fishermen "to pursue their avocations in any part of the Bay of Fundy" outside the three-mile line. In Mr. Everett's reply, he acknowledges "with satisfaction" the "friendly feelings" and "liberality" which prompted this relaxation on the part of the British Gov-

ernment; and while he argues that the English interpretation of the clause of the convention referring to Bays would render the prohibition practically a nullity, he does not for a moment attempt to assert the right of American fishermen to transgress the three-mile line. Thus the negotiation ended; and the British men-of-war continued to seize occasional intruders found within three miles of the shore.

In February, 1852, a Protectionist Government assumed the reins of power in Britain. By way of proving his concern for colonial interests, Sir John Pakington, the Colonial Secretary, prevailed upon the Cabinet to exercise a more strict surveillance of the fisheries than had hitherto been practised, and to make a trifling increase in the naval force appointed for their protection. This was chiefly directed against the French fishermen, whose audacity had passed all bounds: but as all foreigners were to be treated alike, Mr. Crampton, Chargé d'Affaires of Britain, notified the Secretary of State that Her Majesty's Government had resolved "to prevent a repetition of the complaints which had so frequently been made of the encroachments of vessels belonging to citizens of the United States and of France upon the fishing grounds reserved to Great Britain by the convention of 1818." This communication was made on 5th July. It merely amounted, in point of fact, to an announcement that the seizures of American vessels found trespassing would be more numerous than before. Mr. Webster at once began that game of insincerity which has astonished his countrymen. On the following day, he issued a proclamation, in which he acknowledges that "by a strict and rigid construction of the treaty, fishing vessels of the United States are precluded from entering into the bays or harbors of the British Provinces, except for the purposes of shelter, repairing damages, and obtaining wood and water," and recommends the parties engaged in the fishery trade "to be upon their guard." *He does not allude in the most remote manner to the incursions of our fishermen within the three-mile line.*

Meanwhile, *the British government had refused to permit the colonists to enforce their construction of the article of the Treaty relative to Headlands and Bays*, but had authorized the capture of a few small vessels which were found fishing within three marine miles of the shore. Mr. Webster goes to Marshfield on 24th July, and meeting a few talkative friends, assures them, with great warmth, that "The fishermen shall be protected in all their rights of property and all their rights of occupation—to use a Marblehead phrase, they shall be pro-

tected, 'hook and line, bob and sinker.' The most potent consequences," continued the great statesman, "are involved in this matter. Our fisheries have been the very nurseries of our navy. Our flag-ships have conquered the enemy on the sea; the fisheries are at the bottom of it, &c., &c."

Now, is it possible to interpret this otherwise than as an assertion that an attempt had been made to wrest from the American fishermen rights of property, or at least rights of occupancy? What must be thought of Mr. Webster's sincerity when it is seen, as we have shown, that so far from interfering with American rights, the British government actually refused to insist on rights which, according to "high legal authority," her interpretation of the convention, the opinion of Mr. Rush, who drew it, and Mr. Webster himself, belonged to Britain?

The Secretary continues:

"Now, gentlemen, I may venture to say one or two things more on this highly important subject. In the first place, this sudden interruption of the pursuits of our citizens, which had been carried on more than thirty years *without interruption or molestation*, can hardly be justified by any principle or consideration whatever. It is now more than thirty years that they have pursued the fishing in the same water and on the same coast in which, and along which, notice has now come they shall be no longer allowed these privileges. Now this cannot be justified without notice. A mere indulgence of too long continuance, even if the privilege were but an indulgence, cannot be withdrawn at this season of the year when our people, according to their custom, have engaged in the business, without just and seasonable notice."

We have here to choose between a charge of gross ignorance, or a degree of unfairness still more inexcusable than the last. "The pursuits of our citizens, which," says Mr. Webster, "have been carried on for more than thirty years without interruption or molestation," were, in reality, carried on in the teeth of incessant remonstrances from the colonists, and were "molested and interrupted" by seizures, at regular intervals, of thirty-six American vessels, only five of which, from peculiar reasons, were restored to their owners. Mr. Everett had sought in vain to terminate these "molestations and interruptions." Applications had been made to nearly all the cabinets at Washington since 1830, to protect the trespassers from "molestations and interruptions;" but the case was so clear that the several Presidents had refused to move in the matter. Finally, at the very time that Mr. Webster was indulging in these rhetorical flourishes, an offer from Sir Henry Bulwer, on behalf of the British government, to cease to "molest and interrupt" the American fishermen, in consideration of the removal of the duties on fish imported into the States in British bottoms, was lying on the table of Congress. What are we to think of all this?

We are far from wishing to exculpate the British government from the charges of precipitancy, and want of courtesy. Though there was, in point of fact, no actual change of policy on her part, still a new method of carrying out that policy had undoubtedly been resolved upon; and it was discourteous and inconsistent with the friendly relations existing between this country and Britain to let the first notification of the new system be the news of a capture. Nor was it less ungracious to revive a stringent rule, which had been allowed to lie comparatively dormant for so long, at the commencement of the fishing season, and at a time when the country was engrossed with the excitement of a Presidential election. These considerations go far to excuse the warmth of Mr. Mason's language in the Senate; and though we could have wished to find broader views and a more liberal tone in the speech of the Chairman of the Committee on Foreign Relations, still, in the face of such a gross disregard to our interests and our inconvenience, we can hardly find courage to censure him.

With Mr. Webster the case is different. He puts a palpably false coloring on the whole dispute—was ignorant of, or concealed the real points at issue, and threw a firebrand recklessly into the midst of this excitable population. As a matter of course, the *Courier and Enquirer* followed suit, and, losing sight of the real issue, plunged into an historical and philological attempt to prove that the American fishermen had an undoubted right to fish wherever they pleased, and that the Colonists were intruders in their own waters. The torch of strife thus lit, the multitude called for vituperation of England, and for a moment the most fearful calamity that could befall this country—an interruption of our relations with Britain—seemed impending. A large proportion of the press, unmindful of their high trust, preferred inflaming the passions to enlightening the views of their readers. As is usually the case among an eminently commercial and pacific people, the horrors of war never presented themselves to the public mind, and those who could least realize the peril of a collision with Britain were clamorous for an increase of our naval force, and an immediate descent upon the coasts of Nova Scotia. Commodore Perry was urged to distinguish himself by firing the first shot, and entailing incalculable misery on his fellow-countrymen. American honor had been wounded; blood alone could wash out the outrage. Did any skeptic doubt the fact? Mr. Webster's speech at Marshfield was hurled indignantly in his teeth, and the example of the greatest statesman of the

country was an ample justification for menacing language and hot anger.

We hasten to add that the good sense of people who had no such reasons as Mr. Webster for seeking vulgar popularity, averted this great misfortune. Baseless as the clamor was, it wore itself out in a few weeks. We can now venture to examine the dispute dispassionately, without being charged with a lack of patriotism.

In point of fact, Great Britain has never attempted to act upon her construction of the article of the convention which relates to bays and headlands. All the vessels seized by her officers since she relaxed her claim to the Bay of Fundy *have been taken for fishing within three miles of the shore.* Now, no one can pretend for a moment that we have any right to use the shore fisheries in the face of the precise language of the convention of 1818. Where, then, are the grounds for the warlike demonstrations which Mr. Webster's speech at Marshfield aroused? On what pretence can we quarrel with Great Britain for claiming rights which she has claimed, without "let or hindrance," ever since the execution of the treaty—rights which the most unscrupulous advocate of aggrandizement cannot venture to question? We should be no less determined than Mr. Webster in demanding that our fishermen be protected, "hook and line, bob and sinker," in "all their rights of property and occupancy;" but we have too keen a sense of public faith and national honor to wish to cloak them in predatory excursions. The fair fame of the United States is, in our eyes, too precious to be bartered for a few barrels of fish. The character of our people for public honesty must not be stained with a gross violation of sacred treaties, and a lawless disregard for the unquestioned rights of foreign powers.

Let the trespassers be seized. Our marine, whatever Mr. Webster may say to the contrary, does not require a buccaneer apprenticeship to prepare it for "glorious triumphs over the enemy at sea." Meanwhile, this groundless excitement will not be devoid of fruit. The progress of civilization and trade, the unparalleled growth of this republic, the discoveries of gold in Australia and California, necessitate new commercial relations with foreign States, and especially with Great Britain. We may confidently expect some new arrangement respecting the carrying trade between Australia and Great Britain, and California and the United States Atlantic seaports. Congress cannot delay much longer her ultimatum on the Reciprocity question. The final disposal of the fisheries will enter largely into any

new commercial treaty. The annual produce of the British North American waters is estimated at $17,000,000; it is high time that our share of this large sum should be definitely apportioned. There is a manifest inconvenience in our pursuing the trade between the headlands *on sufferance;* some new convention must be agreed upon, and its provisions rigidly carried out on both sides. Furthermore, it has now become imperative on our Government to obtain, if possible, the right of fishing in shore. Without the right of anchoring at the shoals, which are within the three marine miles, the mackerel fishery is not worth having. With very few exceptions, all the mackerel which has been taken during the last twenty years by our fishermen, has been the produce of seine fishing at the shore, in violation of the treaty of 1818. If we are to be excluded henceforth from the coast, we must abandon this branch of the trade altogether. Sir Henry Bulwer was authorized to offer the right of fishing in shore to the Cabinet at Washington, in exchange for the exemption of the twenty per cent. duty imposed on fish imported into our markets in foreign bottoms. The Colonists would surrender any privileges they have to give in return for Reciprocity. Ministers in England would willingly meet Mr. Webster half way, if any disposition were shown to throw open the carrying trade between New York and San Francisco to British vessels. When Great Britain has so many favors to ask, it will not, one would imagine, be a difficult matter to obtain the concession which we require.

Here is an opportunity for Mr. Webster to display the interest he assured the Marshfield deputation that he felt in the fisheries. Let him read Mr. Seward's speech with care, and, scorning appeals to popular passion, endeavor to carry out the practical suggestions offered by that patriotic man. Let him forget the Georgian nomination and the Massachusetts vote, and steadily bear in mind that, in the present day, the battles between two nations like the United States and Great Britain are to be fought in the cabinet; that cool foresight, statistics, and liberality are the only weapons he can use. Let him realize the fact that the interests of the two sections of the Anglo-Saxon family are so intricately woven together, that the smallest injury inflicted on the one thrills through every fibre of the other. Let him take warning from the censure which has been showered on Lord Malmesbury and Earl Derby by the enlightened press of Great Britain, for having permitted a shadow of a misunderstanding to occur between this country and the United Kingdom. Finally, let him obliterate from his mind

all considerations of evanescent popularity, and think only of that future age in which his admirers prophesy that "a full measure of justice" awaits him.

LOBOS ISLANDS.

If we turn from the records of the silly dispute about mackerel to the other papers which load the desk and the conscience of the Secretary of State, a huge heap labelled LOBOS ISLANDS stares us in the face. From salt fish, we come to stercoraceous deposits. From the shores of Cape Breton, we must swiftly hie to the South Pacific. We shall find, as before, American citizens claiming rights which are denied them by foreign powers, and Mr. Webster bearing the sword in their defence. His language is less flowery, his eloquence less martial than it was at Marshfield: but in the main, the cases are parallel. The gist of the Secretary's policy in both was the promise of protection to his fellow-countrymen, in rights which they intended to usurp. The famous letter to Captain Jewett was a fair companion to the reply to Mr. Sprague.

In the Pacific Ocean, at a short distance from the Peruvian shore, in the eye of the Andes, and six and a half degrees south of the line, several small islands protrude their rocky summits from the deep, and dot the monotonous expanse of water. Two of these, the one situate at a distance of fifteen, and the other at a distance of forty miles from the shore, have been christened by the Spaniards respectively Lobos di Tierra, and Lobos Afuera. They are, like the surrounding islets, barren and desolate; but, having been for countless centuries the resort of aquatic birds, are covered with thick strata of the substance called guano, now so largely used as a manure. A demand for this novel merchandise having sprung up within the last few years, the Lobos Islands became a place of resort for vessels belonging to Great Britain and this country. Some 5756 tons were imported to the United States in 1850, and 20,057 in 1851, and sold here at prices averaging $44.12½ a ton. Out of this, about $70 a ton were paid to the Peruvian government for the right of carrying off the precious deposit, and still left a handsome profit to the shipowners. Last spring, an idea flashed on the fertile brain of one of our New York broker merchants. If the Peruvian government could be wheedled or bullied out of this heavy export duty, guano might be laid down here at 25 per cent. under the current market rate, and the profits of the speculation would still be magnificent. By one of those

extraordinary coincidences which it is the duty of the impartial historian to note, the merchant who thus conceived the noble project of defrauding the feeble government of Peru, happened to be a particular friend of the Secretary of State; it was believed, in fact, that he had been mainly instrumental in removing some petty objections which stood in the way of Mr. Webster's acceptance of office. We chronicle the coincidence merely as one of those odd occurrences which give an air of romance to the most practical concerns of every-day life. To carry out his scheme, the merchant directed a Captain Jewett, who was well acquainted with the locality, and who, we may mention *en parenthèse*, has since been honored with a quasi-diplomatic mission to Peru, to inquire of Mr. Webster by what title the Peruvian government claimed the sovereignty of these islands. The reply, published and republished though it has been in almost every paper in the Union, we cannot omit here. It ran as follows:

DEPARTMENT OF STATE,
Washington, June 5th, 1852.

"SIR,—I have to acknowledge the receipt of your letter of the 2nd, inst., inquiring whether citizens of the United States can take guano from the Lobos Islands, which are situated near the coast of Peru, without infringing upon the rights of the citizens, or subjects, or Government of any other nation. In reply, I have to inform you, that if those islands should lie within the distance of a marine league from the continent, or, if being further than that distance, should have been discovered and occupied by Spain or by Peru, the Peruvian Government would have a right to exclude therefrom the vessels and citizens of other nations, except upon such conditions as it may think proper to prescribe. There can be no doubt that the title of Peru to the Chincha Islands, whence guano is now chiefly taken, is founded upon the basis of *discovery and occupancy*. That article was taken from those islands, and used as a manure by the Peruvians, anterior to the conquest of Peru by Spain. It continued to be so taken and used throughout the Spanish dominions in that country, and this practice has been kept up to the present day.

"Although those islands are uninhabitable, the custom of resorting to them from the neighboring continent, for the purpose of procuring guano, may be said to have constituted such an occupancy of them as to give the sovereign of the continent a right of dominion over them under the law of nations. *This department, however, is not aware that the Lobos Islands were either discovered or occupied by Spain or by Peru, or that the guano on them has ever been used for manure on the adjacent coast or elsewhere.* It is certain that the distance from the continent is five or six times greater than is necessary to make them a dependency thereof, pursuant to public law.

"On the other hand, *it is quite probable that Benjn. Morrell, junior, who, as master of the schooner Wasp, of New York, visited those Islands in September*, 1823, *may justly claim to have been their discoverer.* He gives a full account of them in his narrative, published in New York in 1832. Under these circumstances, it may be considered the duty of the Government to protect citizens of the United States, who may visit the Lobos Islands for the purpose of obtaining guano. This duty will be more apparent when it is considered that the consumers of Chincha Islands guano in this country might probably obtain it for half the price they now pay, were it not for the charges of the Peruvian Government. I shall consequently communicate a copy of that letter to the Secretary of the Navy, and suggest that a vessel of war be ordered to repair to the Lobos Islands for the purpose of pro-

tecting from molestation any of our citizens who may wish to take guano from them. I am, sir, very respectfully, your obedient servant,

(Signed) "DANIEL WEBSTER."

Though Mr. Webster desired that this letter should be considered "confidential," its contents became known to a few interested parties, and on the 16th June, in reply to an inquiry from Messrs. Magoun and Son of Boston, Mr. Secretary Graham stated that instructions would be sent to Commodore MacAuley, commanding the U. S. Pacific Squadron, to "afford protection" to our citizens resorting to the Lobos Islands in search of guano. On the strength of this assurance, some twenty vessels, rating 15,125 tons, sailed for thence. Two of the number were armed; one carried a nine-pounder and a large crew, and was commanded by an officer in the United States Navy. These were directed to protect the fleet at all risks, in case Commodore MacAuley should be unable to detach the Raritan from his squadron; and the merchants who had embarked in the enterprise looked forward confidently to a handsome remuneration.

Scarcely, however, had the vessels sailed, when Mr. Webster's "confidential letter" appeared in print. The world was thunderstruck at learning that the Department of State gave "Benjamin Morrell, jun'r, who had visited the islands in 1823," the credit of the discovery of the Lobos Islands, when it was notorious that they had been laid down in charts and geographical maps as forming part of the Spanish and Peruvian dominions, long previous to that date. An official report to the King of Spain, made by M. Condamine, Don Jorge Juan, and Don Antonio de Ulloa, in 1748, made express mention of these islands, and classed them among the Spanish dependencies. The celebrated geographer Alcedo included them within the sovereignty of Peru. American and British vessels visited them frequently ever since the beginning of this century. In 1684, Captain William Dampier "steered away for the island of Lobos, which lieth in latitude 6° 24' south, (I took the elevation of it ashore with an astrolabe) and it is five leagues from the main. It is called Lobos de la Mar, to distinguish it from another that is not far from it and extremely like it, called Lobos de la Terra, for it lies nearer the main. On 9th May we arrived at this island of Lobos de la Mar. The 14th November we had sight of the island Lobos de Terra. It bore east from us. We stood towards it, and between seven and eight o'clock in the night came to an anchor at the north-east end of the island, in four fathom water. The fifteenth day we went ashore."* And yet,

* Voyage Round the World. London, 1729. Vol. I. pp. 96, 145.

"*this Department* was not aware that the Lobos Islands had been either discovered or occupied by Spain or Peru."

Nor was evidence wanting to show that the value of the stercoraceous deposits on the Lobos was well known to the Peruvians. As early as 1723, Captain Sherlock had visited them, and states: "On 5th February, I dispatched Mr. Brooks ahead, to discover if there was any shipping in Arica; and the next day I had sight of the Headland of Arica, and the island of *Guano*, with a ship at anchor on the northern side of it. I saw the *Mercury* standing out of the bay, by which I judged the ship too warm for her; and therefore made all possible haste to get up to her with our ship. When I came into the port, I found that the vessel was already taken, and the Mercury only accidentally went adrift. This prize was called the Rosario, of about 100 tons, *laden with cormorants' dung*, which the Spaniards call guano, and *which is brought from the island of Iguigue, for the culture of the Agi, or Cod pepper, in the vale of Arica.*"* And at a still earlier period, in 1601, Don Antonio de Herrera, "His Majesty's Chief Chronicler of the Indies, and his Chronicler of Castile," minutely described the Lobos Islands in his "Description of the Spanish West Indies," and mentioned the guano at length, alluding to its fertilizing properties, and adding, "*They goe with boates to these islands only for the dung*, for there is no other profit in them."† All which to the contrary notwithstanding, Mr. Webster was "not aware that the guano on the Lobos Islands had ever been used for manure on the adjacent coast or elsewhere."

We will not add a single word of comment. An apology for quoting geographical works to establish a fact of which every studious schoolboy is aware, is due to our readers: nothing short of the plain, unequivocal denial from so high an authority as the Department of State would have warranted us in occupying their time, or our space, in so unnecessary a reference to our library.

Cowering under the storm of accusations which burst on the head of the Secretary, as soon as these facts were brought to light by the press and the Peruvian minister, Mr. Webster published a second official document, which, though displaying a more respectable acquaintance with geography, was scarcely superior to its precursor in point of logic. Let us hastily glance over a few of the statements it contains:

"The truth appears to be," says Mr. Webster, "that Captain Morrell was on a

* Moore's Voyages and Travels, p. 99.

[† Purchas his Pilgrimes, 1625, Vol. III., pp. 855, et seq.

vogage of discovery, and did, in fact, discover, or was supposed to have discovered, guano on these islands. It is certain that no book generally known and circulated in this country mentioned the fact of the existence of guano on these islands until Captain Morrell's narrative was published in 1832."

We have already shown what claim Captain Morrell has to the title of discoverer of the Lobos Islands, or of the guano with which they are covered. As to the latter paragraph, we can only say that we regret to find the information possessed by the Department of State does not extend beyond such elementary works of geography as are "generally known and circulated in this country." But, while Mr. Webster refuses to retract his gross error respecting the discovery, he attempts to show that it had no influence upon his decision: with what success will be best seen by the following extracts.

MR. WEBSTER ON 5TH JUNE.

"On the other hand, it is quite probable that Benjamin Morrell, Jr., who, as master of the schooner Wasp, of New York, visited those islands in September, 1823, may justly claim to have been their discoverer. He gives a full account of them in his narrative published at New York in 1832. Under these circumstances it may be considered the duty of this Government to protect the citizens of the United States who may visit the Lobos Islands for the purpose of obtaining guano."

MR. WEBSTER ON 21ST AUGUST.

"The undersigned will make a further remark, to prevent mistake and misunderstanding, upon Mr. Osma's observation upon the conversation between him and the undersigned, in the Department of State, on the 2d of July; and that is, that the supposed discovery of Captain Morrell, mentioned in that conversation, was not relied upon by the undersigned as founding an exclusive right to the Lobos Islands on the part of the United States."

The decree of 1833 would have been a stickler to any other politician, especially if, as in this case, it had been followed by seizures of vessels which continued to catch seals in spite of the prohibition it contained. But the peculiar mode of thinking which enabled our Secretary to defend the infraction of one article in the Convention of 1818, because some difference of opinion existed respecting the construction of another article, supplied a copious flow of reasoning to destroy the natural inference from the fact of the promulgation and execution of the Peruvian decree. Our Chargé d'Affaires, it seems, had remonstrated at the time; but so absurd were his pretensions, that the Peruvian Government had not deemed them worthy of reply. This, in Mr. Webster's view, amounted to a tacit acquiescence in the justice of his remonstrance, and a waiver of the rights of Peru. A few American vessels, previous to the adaptation of guano to agricultural purposes in this country, had surreptitiously caught seals on the Lobos Islands, and had not been captured for so doing by the Peruvian steamers.

Which proves, said Mr. Webster, that the States never recognized the title of Peru to the Lobos. Our readers cannot fail to notice the perfect analogy between this style of argument, and that applied to the Fisheries. Robbery and trespass, if committed with impunity, constitute an undeniable title for the marauder; or at all events, throw grave doubts on the title of the party robbed and defrauded. After this, we should not be surprised to hear of Mr. Webster's contending that we are entitled to send merchandise across the line 45°, and sell it in the market of Toronto, Belleville, Kingston, or Brockville, without paying duty, because occasionally 'cute Yankees succeed in smuggling goods over the Canadian frontier. In point of fact, the decree of 1833 was as rigidly carried out as the resources of the Republic permitted; and if the American fishermen who pursued their calling on the shores of the Lobos Islands were not called to account, the circumstance must be ascribed to the slight importance attached to their depredations by the Peruvians, and perhaps to the want of an adequate naval force to keep them in check. That no notice was taken of the remonstrance of our Chargé d'Affaires is distinctly proved by the decrees of 1841 and 1842, by which the Peruvian Government established a monopoly in the export of guano found on its territories, and by the survey of the Lobos Islands, in 1847, when the cubic amount of guano was carefully measured and recorded.

Mr. Webster disposes of scientific authority as summarily as he discards the weight of legislative acts. Alcedo, says he, was a Spaniard; he enumerated the Lobos Islands among the Peruvian possessions; but "this may be ascribed to his loyalty as a Spanish subject, and an officer in the king's service." The world is deeply indebted to Mr. Webster for the hint. Henceforth, we shall refuse to admit the authority of Malte-Brun, wherever France is concerned, as everybody knows he was attached to the *Journal des Débats*, the official paper; and McCulloch will be rejected as unworthy of faith when he speaks of Britain, in consequence of his post in the Government stationery office.

The Secretary winds up this funny document with a tacit avowal of his mistake.

"Under all the circumstances," he says, "the President thinks it most advisable that full instructions on this subject should be dispatched to the Chargé d'Affaires of the United States at Lima, and that proper orders should be given to the naval forces of the United States in that quarter to prevent collision until further examination of the case. No countenance will be given to the authors of such enterprises,

claiming to be citizens of the United States, who may undertake to defend themselves or their vessels by force in the prosecution of any commercial enterprise to these islands. Such acts would be acts of private war, and their authors would thereby justly forfeit the protection of their own government."

If we could suppose that this acknowledgment was spontaneous on the part of Mr. Webster, we might, perhaps, be disposed to give him credit for some moral courage in the retractation. Unfortunately, it comes so late that we have very slight grounds for hoping that it will be of any practical service. The score of vessels that were dispatched from this, in June last, will probably arrive at the Lobos Islands before the countermand can reach Commodore MacAuley ; and if a series of Providential accidents should delay them on the way, a vessel, which sailed from Acapulco in July, on the faith of Mr. Webster's letter of 5th June, will certainly outstrip the courier bearing the dispatches referred to by the Secretary. She will, in all probability, be accompanied by the Raritan, under explicit orders to " protect our citizens who may resort thither for guano." Peru, on her side, is prepared for the struggle. The news of Mr. Webster's letter reached Lima on the 31st July, and the Executive was at once invested with dictatorial powers. One steamer and two men-of-war were dispatched to the Lobos, and preparations were made to equip three other sloops of war for the same service. The islands were occupied by General Destua with three hundred men ; they were to be reinforced by an additional battalion of 515 men; and two thousand well-disciplined troops were stationed in the forts at Lambayeque, opposite the Lobos.

Unless fortune proves singularly kind, a collision seems inevitable. We refrain from speculating on the probable result. The dilemma of playing the part of lawless pirates, or retreating ignominiously before the fleet of a petty power like Peru, is too repulsive for us to conjure it up in advance of the reality. Whatever happens, this country will remember that Mr. Webster is the responsible party.

THE TEHUANTEPEC TREATY.

Our relations with Mexico are still more deserving of attention than our policy towards Great Britain or Peru. Indeed, in comparison with the importance of the subject for which we are contending, the fisheries and guano disputes sink into utter insignificance ; and it is to all of us a matter of congratulation, proportionate to the magnitude of the interests at stake, that if our Secretary of State is obnoxious to blame in those petty

quarrels, he can hardly be charged with a want of skill or a dereliction of duty in the management of the great negotiation for a passage across the Isthmus of Tehuantepec.

The reasons which urge the opening of this passage, and the history of the Garay grant, are, we believe, so familiar to our readers, that it is barely necessary for us to do more than give a brief outline of the leading facts and dates. Geographers and statesmen have coincided in indicating the Isthmus of Tehuantepec as the point where the waters of the two great oceans ought to be united. The eagle eye of Cortez saw the vast project, and Humboldt, then in the vigor of youth, foretold its accomplishment, and unfolded its advantages. Taking New York as the starting point, the distances by the various routes to San Francisco, as shown by the following table, are alone, in these days of speedy travelling, conclusive in its favor:—

Distance from New York to San Francisco,			round Cape Horn .	14,194	Miles.
"	"	"	via Panama . . .	4,992	"
"	"	"	via Nicaragua . .	4,531	"
"	"	"	via Tehuantepec .	3,804	"

The climate on the Isthmus is peculiarly favorable. Dr. Kovaleske states, "The plain of Coatzacoalcos river, the region of hills and mountains, and the plain of Tehuantepec together form a broad surface of country, from the Gulf of Mexico to the coast of the Pacific, of a great variety of resources, and of remarkable healthiness, a feature peculiar to the Isthmus, as the lands on both of its sides are very unhealthy." We need not enlarge on this advantage by a comparison with Nicaragua and Panama. There are no insuperable difficulties in the way of the construction of a railroad. The harbors on both sides are safe and ample. Were a line of railway laid down from Tehuantepec to the mouth of the Coatzacoalcos, not only would San Francisco be brought within some twenty days' distance from New York, but all the American and British traffic to China, and many portions of the East Indies, would flow in that direction. The voyage from Liverpool to Canton would be shortened from fifty-four to forty days. Nor are the military advantages of this route less worthy of consideration. Both Panama and Nicaragua are, so to say, under the command of Jamaica, Honduras, and Mosquito. In case of a war, the Caribbean Sea would bristle with British cannon. On the other hand, half the Gulf of Mexico is already ours. New Orleans could send a fleet of ships well armed to the mouth of the Coatzacoalcos in a few days, and the world might try in vain to wrest the key of the Pacific from our grasp.

When this extraordinary combination of advantages is considered, it may perhaps appear strange that no practical steps were taken for the construction of an interoceanic canal or railroad before 1842. To whatever cause we may ascribe the oversight, whether the vast importance of the enterprise was underrated, or whether the unsettled state of Mexico did not permit the serious contemplation of a work of such magnitude, it is certain, that after Cortez, who suggested the idea to Charles V., the honor of the first real movement towards the realization of the project belongs to Don Jose de Garay, a distinguished citizen of Mexico. His memorial, dated 25th of February, 1842, does not exaggerate the vast scheme of its author when it says: "The mind is bewildered, and loses itself when it attempts to grasp the beneficial results that must accrue to Mexico from the completion of this project, from the facility with which her native products will be exported, and from her becoming the emporium of the commerce of the world," &c.

Nothing could be more explicit than the decree, and the contract between the Mexican Government and Garay. The latter was appointed to execute the line of communication; all the unoccupied land for ten leagues on each side of the line was conceded to him in fee simple, and he was authorized to take private property at a valuation: the government engaged to give him protection and assistance, both for the survey and the works; and "*the honor and public faith of the nation was pledged to maintain the projector, Don Jose de Garay, as well as any private individual or company succeeding or representing him, either natives or foreigners*, in the undisturbed enjoyment of all the concessions granted, holding the national administration responsible for any acts of its own or its agents, which, from want of proper fulfilment of the covenant, might injure the interest of the proprietors." The survey Don Jose de Garay covenanted to conclude within eighteen months. He set about it with such energy that it was finished in nine; and on his request, the governors of the departments of Oaxaca and Vera Cruz were directed to put him in immediate possession of the ten leagues of land on either side the line. The delay allowed him to commence the works, which was to expire on 1st July, 1844, was enlarged by the government by a decree dated 28th December, 1843, to 1st July, 1845. Finding that this extension of time was too short for the actual commencement of a work of such magnitude, Don Jose petitioned for a further period of two years, and a bill to that effect passed the

Mexican Congress, and was laid before the Senate, backed by a favorable report of Committee, in June, 1845.

Most unfortunately for the projector, at the very moment when his request was about being granted, a revolution overturned President Paredes and his administration, and raised Don Jose Mariano de Salas to the dictatorship of the Republic. While Salas was reorganizing the government, the delay prescribed by the decree of 28th December, 1843, expired. As soon, however, as order had risen out of the chaos, the Dictator hastened to repair the mischief which had been done by the revolution, by issuing a decree (on 5th November, 1846) confirming the previous grants, and extending the term for the commencement of the works till 5th November, 1848.

Meanwhile, Don Jose de Garay, perhaps disheartened by the *contretemps* of June, 1844, and finding that the magnitude of the enterprise exceeded his expectations, had assigned his rights to an English company. The government of Mexico was duly notified of the assignment, in accordance with the terms of the original grant; and in August and September, 1848, the administration of the Republic formally recognized and approved the transfer. Previous to that date, indeed Mr. Trist, who had applied to Mexico on behalf of the United States, for a right of way across the Isthmus of Tehuantepec, had been informed that "Mexico could not treat on this subject, because she had, several years before, made a grant to one of her own citizens, who had transferred his rights, by the authorization of the Mexican government, to English subjects, of whose rights Mexico could not dispose." The English company, thus officially recognized, assigned their rights, on 5th February, 1848, to an American citizen, Peter A. Hargous, who again transferred the grant to a company at New Orleans.

Never dreaming that Mexico would contemplate the repudiation of a solemn contract, so formally confirmed by several legislative and executive acts, the American company proceeded in April, 1850, to effect a new survey of the line; passports were obtained for their engineers, and orders were issued by the Mexican authorities to the local governors to afford them aid and assistance. A treaty was concluded by our representative Mr. Letcher, and the Mexican Government; and as objections were made by the Tehuantepec R. R. Company to some of its provisions, a fresh treaty was presented to the Mexican Cabinet, negotiated, agreed to by the grantees, and approved by the Senate in February, 1851. Up to this time, not a shadow of doubt had been cast on the American title.

On 22d May, 1851, a law was passed in the Mexican Congress, declaring "the decree of General Salas, of November, 1846, null and void, because he had no power to make such a decree," and requiring the American engineers to discontinue their work, and depart the country.

These are the facts of the case. We may dispose of the pretension of the Mexican Congress—that Salas, being a usurper, had no authority to promulgate the decree of November, 1846—in a very few words. For the last fifteen or twenty years, all the rulers of Mexico have been, strictly speaking, usurpers; that is to say, they held the supreme power in virtue of a new and frequently a self-constituted authority. In point of law, the decrees of Salas were and are clothed with the same authority as those of Santa Anna or Paredes. He was, during his reign, the undisputed ruler of Mexico, and as such, was undoubtedly entitled to pledge the public faith with as much efficacy as any of his predecessors. His contracts with individuals were as binding on the State as theirs. We hold this principle of public law to be indisputable. Mexico herself has not ventured to attack the validity of his dictatorial decrees respecting the bureau of archives, the liberty of the press, colonization, literary property, the holding of popular meetings, or the naturalization laws: the only act she has thought fit to repudiate has been the decree relative to the Tehuantepec grant; and that she refused to acknowledge, after expressly recognizing the validity of some, and tacitly that of all Salas' decrees, after the administrative and judicial authorities of the republic had constantly referred to the acts of the dictatorship as law. In reality, the grounds of the law of May, 1851, are too absurd to admit of argument.

The only serious defence which can be set up in favor of the Mexican Ministry rests on the forfeiture of the grant to Garay, in consequence of his failure to commence the work within the time allowed by the act of December, 1843. We have seen how the revolution of June, 1844, which interrupted the proceedings of the Legislature, prevented the passage of the law enlarging the delay. According to the rules *strictissimi juris*, the grant to Garay having lapsed on 1st July, 1844, could not be resuscitated in November, 1846.

But, passing over the obvious argument that rules of this nature cannot apply to such extraordinary cases as one where the legislature was forcibly dissolved, and the Government overturned by a revolution, we find in history numberless instances of retroactive laws, of a precisely similar nature to

that of Salas, the validity of which has never been questioned. The French *Bulletin des Lois* abounds with parallel statutes: they are, in fact, necessary in times of revolution, where interruptions of the legislative proceedings prevent the due continuance of temporary laws. There is hardly a nation in the civilized world which at some time or other has not been compelled to legislate for the past, in order to guard against the confusion and disorder consequent on a period of anarchy. It cannot be doubted that if Paredes had continued to wield the supreme power a few weeks longer, the Tehuantepec bill would have passed the Legislature: Salas, his immediate successor, and the provisional dictator, acting on the well-known principle of law that the interregnum between the overthrow of the old government and the organization of the new one must be considered as occupying only an instant of time, and that the constitutional rule of his predecessor was immediately succeeded by the sway of the federal Congress, took up the bill at the stage where it had been dropped, and gave it that authority which it would have derived from the old Congress had no revolution taken place. To the validity of this act one formality alone was wanting—the ratification by the new constitutional authorities. It would have been impossible for Mexico to ratify his decree more unequivocally than she has done. The tacit adoption of all of Salas' decrees by the Congress, when they were reported on his surrender of the dictatorship—the formal acknowledgment of the rights of the English Company, made to Mr. Trist in 1847—the partial recognition of the assignment to Manning and McIntosh on 6th and 10th August, and the final consummation of the acceptance of the transfer on 28th September, 1848—the treaty of April, 1850, and the powers conferred on the engineers of the American Company, and finally, the treaty of February, 1851, to which the Mexican Government required the American assignees of Manning and McIntosh to assent—are a series of ratifications, than which none could be more binding or more solemn. No legal formalities could substitute the Tehuantepec Railroad Company more firmly and more completely in the rights of Garay than the acts of the Mexican authorities have done. If the faith of the Republic was pledged to the one, it is pledged to the other. If the Administration was "responsible to Garay for any acts of its own or its agents, which, from want of proper fulfilment of the original covenant, might injure the interest of the proprietors," it is equally responsible to the as-

signees of Hargous. It is impossible to conceive a clearer proposition than this.

In a word, it would be difficult to find in modern times a parallel for the public dishonesty of Mexico, in expelling the American engineers, and refusing to fulfil its contract. We must travel back to antiquity for a precedent, and even then scruple to attach so wide a meaning to "Punic faith." The object of the Mexican people—for we have every reason to believe that the repudiation of the contract by the Congress was demanded by a large majority of the people—it is difficult to conjecture. It may be that the advantages to be derived from annexation to the United States are seen in so clear a light by the citizens of that distracted country, that they are willing to purchase admission into the Union even at the cost of a second war.

If this be the secret of their extraordinary policy, it will be for our representatives to determine on the expediency of this new accession of territory. To us it seems a prospect yet far in the distance. Meanwhile, severely as we have felt it our duty to animadvert on other branches of Mr. Webster's foreign policy, we feel a sincere satisfaction in being able to bear our testimony to the energy and spirit the cabinet have evinced on this occasion. The Secretary is penetrated by a proper sense of the vital importance of the prosecution of this great work. "This government," was the manly language of Mr. Webster in addressing the Mexican minister, "will feel itself compelled to take into consideration the measures which its duty to its own citizens may require it to adopt, to protect their rights under a voluntary grant made by Mexico of a right of transit across the Isthmus. *The government of the United States can in no event be expected to abandon those rights.*"

The tone of this dispatch is equally honorable and politic. We cannot believe that the Mexican government will madly persist in their dishonest attempt, when they discover that our authorities are determined to protect the rights of their subjects at all hazards. There is a limit even to Mexican fool-hardiness: the administration of the neighboring republic will discover, we trust, that they have reached it. Should our presentiment prove false—should the dispatches of M. de la Vega fail to awaken his government to a sense of honor, or to an appreciation of the danger—there is but one course for our authorities to pursue. The Tehuantepec treaty must be enforced, *coute qui coute:* if it involve a fresh series of calamities for Mexico, on the heads of her people be the crime.

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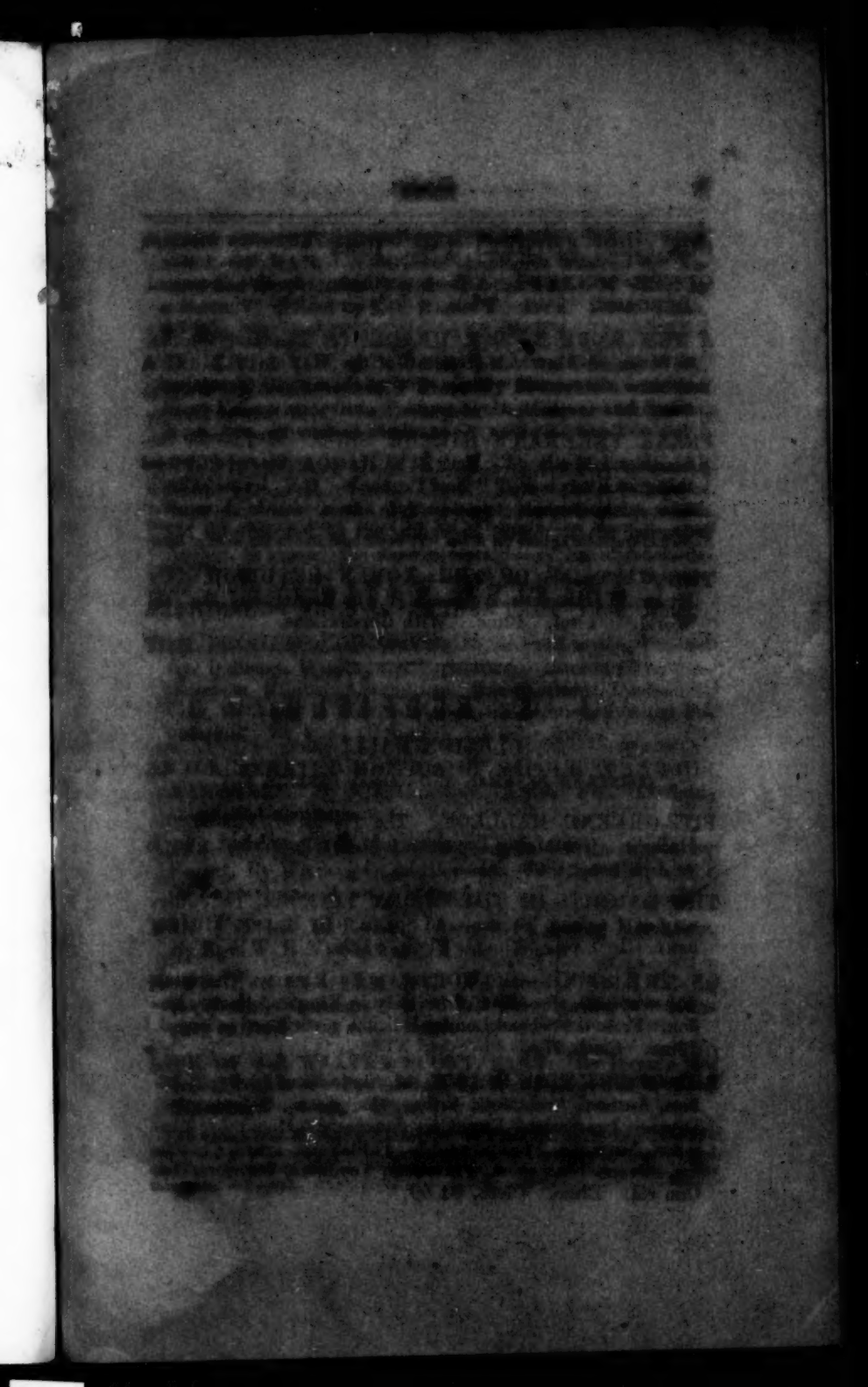

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